
San Bernardino County

AIDS

Program Report

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AIDS/HIV Disease Reported Through December 31, 1999



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Introduction

This report was originally developed to provide the public, educators, physicians and other service providers with an epidemiologic description of the acquired immunodeficiency syndrome (AIDS) and human immunodeficiency virus (HIV) infection in San Bernardino County. Over time, it has grown to include more than 75 figures and tables, a brief history of the county, choroplethic maps and descriptions of other HIV-related services provided by the San Bernardino County Department of Public Health and others.

Specifically, the report includes a brief history and geographic description of the county; a sociodemographic profile of the population by health planning region; and discussions of reported AIDS cases by selected demographic variables with analyses over time. It also includes a mortality analysis, an estimate of the number of persons living with HIV, years of potential life lost due to AIDS, leading causes of death for San Bernardino County residents and a discussion of the economic impact of the epidemic. The report contains data describing the clients who receive outpatient primary medical care from the Department of Public Health. It also includes a description of anonymous and confidential HIV antibody counseling and testing programs; blinded seroprevalence studies such as that for child bearing women; and screening programs for blood donors and military recruits. Finally, it includes a discussion of other diseases/conditions of possible relevance to the HIV epidemic, the AIDS Drug Assistance Program (ADAP), Housing Opportunities for Persons with AIDS (HOPWA), and prevention education efforts within the county.

History and Geography

San Bernardino County is located in the inland portion of Southern California (see figure 1) and is geographically the largest county in the contiguous United States. It originally constituted the eastern portion of Los Angeles County. However, on April 26, 1853, the Senate and Assembly of the State of California approved the division of Los Angeles County, “beginning at a point where a due south line drawn from the highest peak of the Sierra de Santiago intersects

the northern boundary of San Diego County; thence running along the summit of said Sierra to the Santa Ana river, between the ranch of Sierra and residence of Bernardo Yorba; thence across the Santa Ana river along the summit of the range of hills, that lie between the Coyotes and Chino, (leaving the ranches of Ontiveras and Ybana to the west of this line) to the southeast corner of the ranch of San Jose; thence along the eastern boundaries of said ranch and of San Antonio, and the western and northern boundaries of Cucamonga ranch and the ravine of Cucamonga; thence up said ravine to its source in the coast range; thence due north to the northern boundary of Los Angeles County; thence northeast to the State line; thence along the State line to the northern boundary line of San Diego County; thence westerly along the northern boundary of San Diego to the place of beginning.” In 1893, Riverside County was formed from the southern section of San Bernardino County and the northern portion of San Diego County. San Bernardino County currently covers 20,164 square miles and is larger than the combined land masses of New Jersey, Massachusetts, Delaware, and Rhode Island.



FIGURE 1. Map of the State of California with San Bernardino County shaded.

San Bernardino County is bordered on the north by Inyo County, the northeast by the state of Nevada, the east by the state of Arizona, the south by Riverside County, the southwest by Orange County and the west by Los Angeles and Kern counties.

The county has diverse geographical features including the vast Mojave Desert, San Bernardino National Forest and San Gorgonio Wilderness Area; numerous desert valleys (Cadiz, Chemehuevi, Ivanpah, Lucerne, Mesquite, Piute, Searles, Shadow, Summit, Superior, Victor and Ward); extensive mountain ranges (Bristol, Bullion, Cady, Granite, Kelso, Mesquite, Newberry, Quail, Sacramento, San Bernardino, Old Woman and Owlshead) and a number of lakes (Arrowbear, Arrowhead, Big Bear, Green Valley, Gregory and Silverwood). Its eastern border is defined by the Colorado River. The county has all five major climatic zones from low desert to alpine. The county's lowest point is in Death Valley (282 feet below sea level) and its highest peak is San Gorgonio Mountain (11,502 feet above sea level).

Department of Public Health

The San Bernardino County Board of Supervisors became legally authorized for health administration in 1872. A county health officer was first permitted in 1897 and made mandatory in 1909. The Department of Public Health was established in 1931. The Department conducts a comprehensive public health program which includes services mandated by the state, a substantial range of public health-related personal health services, and a number of county regulatory programs. The Department is divided into four divisions; Preventive Medical Services, Community Health Services, Environmental Health Services, and Administrative Services. The divisions are further subdivided into 23 sections and 36 programs. A categorical AIDS Program was established in 1988 and is housed within the Disease Control Section of the Division of Preventive Medical Services.

Sociodemographic Profile

According to 1990 census data, San Bernardino County's 1,418,380 residents ranked fifth in terms of population among California counties and sixteenth among those within the United States. The median annual income in 1989 for San Bernardino County residents was \$36,977. Thirteen percent of the total population within the county lived below the poverty level. Ninety-three percent of the population resided in urban areas and 7% resided in rural areas. The 1998

estimated mid-year population for San Bernardino County was 1,645,800 (source: California Department of Finance). This represents a 16% increase when compared with 1990 census data.

There are 2,656 physicians, 18 acute care hospitals and 5 licensed community clinics within San Bernardino County.

San Bernardino County's borders embrace more than 50 urban centers, suburban cities, and rural and remote communities. For the purposes of health planning, the county has been divided into three regions. The east valley and west valley health planning regions are located in the extreme southwest corner of the county while the desert region constitutes the remainder. Table 1 presents the cities/communities within San Bernardino County by health planning region.

TABLE 1. Cities/communities by health planning region, San Bernardino County

San Bernardino County		
East Valley	West Valley	Desert
Big Bear City	Alta Loma	Adelanto
Big Bear Lake	Chino	Apple Valley
Bloomington	Chino Hills	Baker
Blue Jay	Etiwanda	Barstow
Cedar Glen	Fontana	Big River
Colton	Montclair	Earp
Crestline	Ontario	Helendale
Crestpark	Rancho Cucamonga	Hesperia
Devore	Upland	Joshua Tree
Erwin Lake		Landers
Fawnskin		Lucerne Valley
Forest Falls		Morongo Valley
Grand Terrace		Needles
Highland		Newberry Springs
Lake Arrowhead		Phelan
Loma Linda		Pinon Hills
Lytle Creek		Trona
Mentone		Twentynine Palms
Redlands		Victorville
Rialto		Wonder Valley
Rimforest		Wrightwood
Running Springs		Yermo
San Bernardino		Yucca Valley
Skyforest		
Sugarloaf		
Twin Peaks		
Yucaipa		

Table 2 shows that there are differences among the three health planning regions of San Bernardino County. Based on 1990 census data, the east valley had a greater proportion of African Americans (10%) than did the west valley and desert region (7% and 6%, respectively). The west and east valley regions had substantially greater proportions of Latinos (32% and 27%, respectively) than did the desert region (16%).

TABLE 2. Sociodemographic profile by health planning region, San Bernardino County, 1990

	East Valley		West Valley		Desert		Total	
Male	272,329	49%	279,422	50%	159,056	51%	710,807	50%
Female	280,970	51%	274,882	50%	151,721	49%	707,573	50%
Total	553,299		554,304		310,777		1,418,380	100%
Caucasian	319,508	58%	311,135	56%	231,470	74%	862,113	61%
Latino	152,025	27%	175,931	32%	50,617	16%	378,573	27%
African American	55,346	10%	36,101	7%	17,724	6%	109,171	8%
Asian/Pacific Islander	21,381	4%	27,022	5%	6,984	2%	55,387	4%
Native American	3,858	1%	2,575	<1%	3,585	1%	10,018	1%
Other	1,181	<1%	1,540	<1%	397	<1%	3,118	<1%
<5	53,545	10%	55,419	10%	29,378	9%	138,342	10%
5-9	49,984	9%	51,000	9%	28,065	9%	129,049	9%
10-14	43,311	8%	44,577	8%	24,050	8%	111,938	8%
15-19	39,305	7%	41,391	7%	21,431	7%	102,127	7%
20-24	42,014	8%	45,587	8%	24,582	8%	112,183	8%
25-34	102,579	19%	114,925	21%	54,461	18%	271,965	19%
35-44	80,685	15%	89,752	16%	42,570	14%	213,007	15%
45-54	48,203	9%	47,905	9%	26,262	8%	122,370	9%
55-64	37,936	7%	30,280	5%	24,283	8%	92,499	7%
65-74	32,083	6%	20,901	4%	22,732	7%	75,716	5%
75-84	17,922	3%	9,893	2%	10,592	3%	38,407	3%
85+	5,732	1%	2,674	<1%	2,371	1%	10,777	1%
Med Household Income	\$25,533 - \$45,127		\$33,084 - \$58,030		\$22,429 - \$34,050			
Proportion with high school diploma or higher (25+ years old)	74.7%		75.8%		75.9%			
Proportion with bachelor's degree or higher (25+ years old)	16.8%		15.5%		10.6%			
Proportion in labor force among persons 16 years and older	63.6%		69.8%		61.3%			
Proportion unemployed among persons 16 years and older	8.4%		6.2%		9.5%			

The west and east valley regions had a greater proportion of Asian/Pacific Islanders (5% and 4%, respectively) than did the desert region (2%).

The desert and east valley regions had greater proportions of adults over the age of 55 (19% and 17%, respectively) than did the west valley (11%).

The west valley was the wealthiest in terms of annual median household income. The proportions of people with high school diplomas were comparable across all health planning regions. The proportions of those with bachelors degrees were comparable for the west and east valley regions (17% and 16%, respectively) while that for the desert was lower (11%). The proportion employed was highest in the west valley (70%) while those for the east valley (64%) and desert (61%) were comparable. It followed that the rate of unemployment was lowest in the west valley (6%) and higher in the east valley (8%) and desert regions (10%).

The Epidemic

The first cases of the Acquired Immunodeficiency Syndrome (AIDS) reported in the United States were described in the June 5, 1981 issue of the *Morbidity and Mortality Weekly Report*. Since then, AIDS has emerged as what might be the most significant communicable disease epidemic of the twentieth century.

Table 3 provides some indication of the impact of the epidemic on the United States, New York, California and selected California counties. The federal government considers Riverside and San Bernardino counties as a single metropolitan area (MA) for the purposes of counting cases of AIDS and allocating funds for HIV-related health and support services. The number of cases reported within the Riverside-San Bernardino MA ranks 21st among the 100 MAs recognized by the Centers for Disease Control and Prevention (CDC).

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TABLE 3. Cumulative AIDS cases for selected jurisdictions, 1981 – December 31, 1999

United States	733,374
New York	136,062
California	115,366
Los Angeles County	40,709
San Francisco County	27,151
San Diego County	10,174
Alameda County	7,786
Riverside – San Bernardino counties	6,570
Orange County	5,376
San Jose County	3,032
Sacramento County	3,064
Kern County	965

Center for Disease Control and Prevention. *HIV/AIDS Surveillance Report*, 1998;10 (no. 2):[8-11]

The cases presented in table 4 are reported by county of residence at diagnosis and do not necessarily reflect the number of people living with AIDS in San Bernardino and Riverside Counties. The 2,632 cases reported by San Bernardino County rank ninth among the 58 California counties.

TABLE 4. Cumulative AIDS Cases for Riverside and San Bernardino Counties, 1983–December 31, 1999

Riverside County	3,977	60%
San Bernardino County	2,632	40%
Community	2,236	
Institutional	396	
Total	6,609	100%

Community AIDS Cases

Community cases are defined as persons with one or more AIDS defining conditions who lived in San Bernardino County at the time of their initial diagnosis. They do not include those incarcerated within state prisons or hospitals.

San Bernardino County reported its first case of AIDS in 1983. Since that time, 2,236 community cases have been reported. One hundred and thirty one cases of AIDS were reported between January 1, 1999 and December 31, 1999.

The age distribution of persons diagnosed with AIDS in San Bernardino County (see table 5) is similar to that of the United States (Centers for Disease Control and Prevention. *HIV/AIDS Surveillance Report*, 1999;10 no. 11: [16]).

TABLE 5. Community AIDS cases by age group, San Bernardino County, 1983–December 31, 1999

<5	27	1%
5-12	10	<1%
13-19	13	1%
20-29	438	20%
30-39	975	44%
40-49	533	24%
50+	240	11%
Total	2,236	100%

TABLE 6. Community AIDS cases by race/ethnicity, San Bernardino County, 1983–December 31, 1999

Caucasian	1,135	51%
Latino	606	27%
African American	452	20%
Asian/Pacific Islander*	27	1%
Native American	16	1%
Total	2,236	100%

*8 Filipino, 2 Vietnamese, 1 Chinese, 1 Indonesian, 4 Japanese, 1 Korean, 3 Thai, 2 Tongan, 5 Unspecified

The number of cases among Caucasians in San Bernardino County is 2.5 times that reported among African Americans and 1.9 times that identified among Latinos (see table 6).

The racial/ethnic distribution of San Bernardino County community cases differs from that for the United States. Fifty-one percent of the local cases have occurred among Caucasians while the corresponding proportion for the United States is 43% (Centers for Disease Control and Prevention. *HIV/AIDS Surveillance Report*, 1999;11 no. 2: [16]). Twenty-seven percent of the San Bernardino County community cases have occurred among Latinos while 18% of the national cases have been reported among this racial/ethnic group. Twenty percent of the local cases have been African American in contrast to 37% of the nation's cases. The local proportions of Asian/Pacific Islander and Native American cases are similar to those for the nation.

One thousand eight hundred and eighty-five (84%) of the 2,236 community AIDS cases have occurred among males (see table 7) and 351 (16%) have been female (see table 8). These proportions are comparable to national data (Centers for Disease Control and Prevention. *HIV/AIDS Surveillance Report*, 1999;11 no. 2: [14]).

The risk profile for San Bernardino County adult/adolescent male community AIDS cases is similar to that of cases reported throughout the United States with the exception of the proportions associated with injection drug use (IDU) alone and sex between men. Twenty-two percent of the nation's adult male cases have been attributed to IDU alone (Centers for Disease Control and Prevention. *HIV/AIDS Surveillance Report*, 1999;11 no. 2: [14]) compared to 13% in San Bernardino County. Sixty-six percent of the local male cases have been associated with sex between men while 56% of the national male cases have shared the same risk factor. The national and local proportions of male cases

TABLE 7. Male community AIDS cases by probable source of infection and race/ethnicity, San Bernardino County, 1983–December 31, 1999

Probable Source of Infection	Race/Ethnicity					Total	Row%
	Caucasian	Latino	African Am	Asian/Pac	Native Am		
Sex between men	717	315	183	14	8	1,237	66%
Injection drug use	96	79	73	2	0	250	13%
Sex between men/IDU	110	56	34	0	4	204	11%
Heterosexual, partner IDU	16	27	7	0	0	50	3%
Receipt of factor concentrate	20	11	0	4	0	35	2%
Transfusion	15	7	1	1	1	25	1%
Heterosexual, partner HIV+	9	2	9	1	1	22	1%
Perinat. mother IDU	0	0	5	0	0	5	<1%
Perinat. mother sex c IDU	1	0	2	0	0	3	<1%
Perinat. mother sex c HIV+	1	1	0	0	0	2	<1%
Perinat. mother HIV+	0	1	0	0	0	1	<1%
Perinat. mother sex c bisexual	1	0	0	0	0	1	<1%
Perinat. mother transfused	0	1	0	0	0	1	<1%
No history obtained/unknown	16	17	13	2	1	49	3%
Total	1,002	517	327	24	15	1,885	
Column%	53%	27%	17%	1%	1%		100%

TABLE 8. Female community AIDS cases by probable source of infection and race/ethnicity, San Bernardino County, 1983–December 31, 1999

Probable Source of Infection	Race/Ethnicity					Total	Row%
	Caucasian	African Am	Latina	Asian	Native Am		
Injection drug use	44	38	30	0	0	112	32%
Heterosexual, partner IDU	25	34	19	1	1	80	23%
Heterosexual, partner HIV+	18	16	9	1	0	44	13%
Transfusion	11	6	12	0	0	29	8%
Heterosexual, partner bisex.	17	3	5	1	0	26	7%
Perinat. mother IDU	3	7	1	0	0	11	3%
Heterosexual, partner hemo.	3	2	5	0	0	10	3%
Heterosexual, partner trans.	1	2	1	0	0	4	1%
Perinat. mother sex c IDU	1	0	2	0	0	3	1%
Perinat. mother HIV+	1	1	0	0	0	2	1%
Perinat. mother sex c bisexual	0	0	1	0	0	1	<1%
Perinat. mother sex c HIV+	0	1	0	0	0	1	<1%
Perinat. mother transfused	0	0	1	0	0	1	<1%
Receipt of factor concentrate	1	0	0	0	0	1	<1%
No history obtained/unknown	8	15	3	0	0	26	7%
Total	133	125	89	3	1	351	
Column%	38%	36%	25%	1%	<1%		100%

associated with sex between men in addition to IDU, heterosexual contact, transfusions, perinatal transmission, and receipt of factor concentrate are similar.

The risk profile for adult/adolescent female community AIDS cases in San Bernardino County is different from that of the United States. Forty-two percent of the nation's female cases have been associated with IDU alone (Centers for Disease Control and Prevention. *HIV/AIDS Surveillance Report*, 1999;11 no. 2: [14]) compared with 32% of San Bernardino County cases. Forty-seven percent of the local female cases have been attributed to heterosexual contact while the corresponding proportion for the nation is 40%. Forty-nine percent of the county's female cases associated with heterosexual transmission identified at least one sex partner as an IDU in contrast to 41% of the nation's female cases

whose infection was attributed to heterosexual contact. The proportion of cases with no identified risk among females is 2.3 times that for males. One possible explanation for this may be that as the number of cases whose probable source of infection is heterosexual contact increases, the likelihood of knowing the risk profile of each partner will decrease. For the purposes of developing prevention education programs and intervention strategies, it is important to recognize that 1,983 (89%) of the 2,236 community cases have been either directly or indirectly associated with sex between men, injection drug use, or both.

While there have been only 32 cases (1% of all community cases) associated with perinatal transmission, these are important in light of results from the AIDS Clinical Trial Group Protocol 076 (Connor EM, Sperling RS, Gelber R, et al. Reduction of maternal-infant transmission of

TABLE 9. Community AIDS cases by AIDS defining condition, San Bernardino County, 1983-December 31, 1999

CD4 Lymphocyte count < 200 cells/mm ³	1,465	34%
Pneumocystis carinii pneumonia	734	17%
Wasting syndrome due to HIV	462	11%
Candidiasis, esophageal	272	6%
Kaposi's sarcoma	222	5%
Mycobacterium avium complex or M. kansasii, disseminated or extrapulmonary	159	4%
HIV encephalopathy (dementia)	153	4%
Cryptococcosis, extrapulmonary	96	2%
Candidiasis, bronchi, trachea, or lungs	88	2%
Cytomegalovirus retinitis (with loss of vision)	83	2%
Herpes simplex: chronic ulcer(s) (>1 month duration)	81	2%
Cytomegalovirus disease (other than in liver, spleen or nodes) onset at >1 month of age	71	2%
Toxoplasmosis of brain, onset at >1 month of age	56	1%
Cryptosporidiosis, chronic intestinal	52	1%
M. tuberculosis, pulmonary	52	1%
Pneumonia, recurrent in a 12 month period	47	1%
Lymphoma, immunoblastic (or equivalent term)	42	1%
M. tuberculosis, disseminated or extrapulmonary	41	1%
Mycobacterium, of other species or unidentified species, disseminated or extrapulmonary	36	1%
Progressive multifocal leukoencephalopathy	17	<1%
Coccidioidomycosis, disseminated or extrapulmonary	14	<1%
Bacterial infections, multiple or recurrent (including Salmonella septicemia)	13	<1%
Lymphoma, primary in brain	13	<1%
Isosporiasis, chronic intestinal (>1 month duration)	12	<1%
Histoplasmosis, disseminated or extrapulmonary	8	<1%
Lymphoma, Burkitt's (or equivalent term)	8	<1%
Carcinoma, invasive cervical	6	<1%
Lymphoid interstitial pneumonia and/or pulmonary lymphoid hyperplasia	5	<1%
Total Reports of Disease	4,308	100%
Total Cases	2,236	

human immunodeficiency virus type 1 with zidovudine treatment. N Engl J Med 1994; 331: 1173-80). This study suggested that zidovudine (ZDV) therapy during the course of pregnancy has the potential to reduce the rate of perinatal transmission by nearly 70%. In response to these findings, the United States Public Health Service (USPHS) issued interim recommendations in February 1994 that HIV-infected women be informed of the potential benefits and unknown long-term risks of ZDV antiretroviral therapy during pregnancy and the perinatal period (Centers for Disease Control and Prevention. Recommendations of the U.S. Public Health Service task force on the use of zidovudine to reduce perinatal transmission of human immunodeficiency virus. MMWR 1994; 43 [RR-11]: 1-20). The recommendations were specific with regard to CD4 cell count, weeks of gestation, and history of antiretroviral therapy. Since then, the introduction of combination therapy has resulted in changes in the standard treatment of HIV. Although pregnancy may influence decisions as to the timing and type of therapy, the USPHS has indicated that, "pregnancy is not an adequate reason to defer standard therapy. There are unique considerations regarding use of antiretroviral drugs during pregnancy, including

the potential need to alter dosing due to physiologic changes associated with pregnancy, the potential for adverse short or long-term effects on the fetus and newborn, and effectiveness for reducing the risk of perinatal transmission." All health care providers are encouraged to offer culturally, linguistically, and educationally appropriate information and counseling such that infected women can take action to interrupt vertical transmission of HIV.

Providers who serve HIV-infected pregnant women are encouraged to contact the San Bernardino County Department of Public Health, Loma Linda University Children's Hospital and Medical Center or Arrowhead Regional Medical Center for assistance/consultation.

The annual number of reported AIDS cases associated with perinatal transmission has declined since 1995 (n=9). In 1999, no case attributed to perinatal transmission was reported.

Table 9 was developed to provide local physicians, pharmacists and health planners with some indication of the conditions which accompany the immune deficiency associated with advanced HIV disease. It is not surprising that there are more AIDS defining events than

TABLE 10. Community AIDS cases by health planning region, San Bernardino County, 1983-December 31, 1999

Region	Reported Cases	% Cases	1990 Population	% Population
East Valley	1,066	48%	553,299	39%
West Valley	774	35%	554,304	39%
Desert	394	18%	310,777	22%
Homeless	2	<1%	Unknown	Unknown
Total	2,236	100%	1,418,380	100%

TABLE 11. Community AIDS cases and cumulative incidence rates for cities/communities reporting 10 or more cases, San Bernardino County, 1983-December 31, 1999

Reported Cases		Cumulative Incidence Rate/100,000	
San Bernardino	525	Morongo Valley	648
Ontario	217	Joshua Tree	436
Fontana	168	San Bernardino	320
Rialto	131	Big Bear Lake	243
Rancho Cucamonga	117	Yucca valley	241
Redlands	104	Big Bear City	224
Upland	93	Crestline	221
Chino	86	Bloomington	212
Victorville	80	Adelanto	211
Colton	69	Barstow	205
Hesperia	65	Victorville	197
Highland	60	Fontana	192
Apple Valley	58	Montclair	190
Montclair	54	Lake Arrowhead	184
Barstow	44	Rialto	181
Yucca Valley	33	Highland	174
Bloomington	32	Redlands	172
Chino Hills	32	Colton	172
Yucaipa	28	Ontario	163
Twetynine Palms	23	Upland	147
Crestline	19	Chino	144
Adelanto	18	Hesperia	129
Joshua Tree	17	Apple Valley	126
Big Bear Lake	13	Chino Hills	116
Lake Arrowhead	12	Rancho Cucamonga	115
Phelan	12	Twetynine Palms	103
Big Bear City	11	Yucaipa	85
Loma Linda	11	Loma Linda	63
Morongo Valley	10	Phelan	NA

* Rates are calculated based on the 1990 census population data.

there are cases, as AIDS patients experience multiple diseases which would individually support a diagnosis of AIDS. In fact, this list underrepresents the number of AIDS defining conditions because once a case has been reported, physicians are under no obligation to report additional AIDS defining conditions that develop subsequent to the initial diagnosis other than those made reportable in Section 2500, *California Code of Regulations* (coccidioidomycosis, cryptococcosis, cryptosporidiosis, *Salmonella* septicemia, toxoplasmosis, and tuberculosis).

The AIDS case surveillance definition was changed by the CDC in 1985, 1987, 1988 (residency status only) and 1993. The most recent change included CD4 lymphocyte counts <200 cells/mm³. It is interesting to note that this AIDS defining condition became the most frequently reported within 15 months of its implementation.

Table 10 shows the distribution of community AIDS cases by health planning region. The

population and case distributions differ in that 48% percent of the community AIDS cases have been reported from the east valley while only 39% of the population resides in that region. Thirty-five percent of the cases have been reported from the west valley health planning region where 39% of the population lives. Eighteen percent of the cases have been reported from desert cities/communities while 22% of the total population lives in that health planning region.

Table 11 shows that there are 29 cities/communities within San Bernardino County with ten or more reported cases of AIDS. It is somewhat surprising that Joshua Tree, Big Bear City, Big Bear Lake, Crestline, Morongo Valley and Yucca Valley have high cumulative incidence rates. However, these findings are based on small numbers of cases and the relatively small populations of these communities. While reports of AIDS have been widely distributed throughout the county, it has been decided not to publish the number of cases for cities/communities with fewer

than ten cases as this might compromise an individual's right to confidentiality. It is not, however, believed that confidentiality is compromised by listing said cities. Therefore, those cities/communities from which at least one, but fewer than ten resident cases have been reported include Alta Loma, Baker, Blue Jay, Cedar Glen, Crestpark, Devore, Earp, Erwin Lake, Etiwanda, Fawnskin, Forest Falls, Fort Irwin, Grand Terrace, Helendale, Landers, Lucerne Valley, Lytle Creek, Mentone, Morongo Valley, Muscoy, Needles, Newberry Springs, Norton Air Force Base, Pinon Hills, Rimforest, Running Springs, Skyforest, Sugarloaf, Trona, Twin Peaks, Wonder Valley, Wrightwood and Yermo.

TABLE 12. Community AIDS case annual and cumulative mortality rates by year of report, San Bernardino County, 1983-December 31, 1999

Year	Reported Cases	Deaths	Fatality Rate	Cumulative Rate
1983	1	1	100%	100%
1984	6	6	100%	100%
1985	6	6	100%	100%
1986	23	23	100%	100%
1987	78	76	97%	98%
1988	79	72	91%	95%
1989	118	112	95%	95%
1990	114	108	95%	95%
1991	143	131	92%	94%
1992	236	183	78%	89%
1993	342	212	62%	81%
1994	249	123	49%	75%
1995	203	85	42%	71%
1996	182	58	32%	67%
1997	166	46	28%	64%
1998	159	26	16%	60%
1999	131	21	16%	58%
Total	2,236	1,289		

The local annual case fatality rates (see table 12) are consistently higher than those for the United States through 1996. There is no reason to believe that HIV is more virulent within San Bernardino County or that the medical care provided within the county is inferior to that of the nation. The observed differences are most likely due to more aggressive longitudinal surveillance of AIDS cases in San Bernardino County, thereby reducing the number lost to follow-up. Highly active anti-retroviral therapy (HAART) was introduced in late 1996. This would explain, in part, the

observed decline in the annual and cumulative case fatality rates in 1997 and 1998. The 1999 cumulative death rates for San Bernardino County and the nation are comparable.

The data presented in table 13 indicate that there are no proportional differences in the regional distribution of community AIDS cases by gender. This suggests that there should be no difference in the need for gender specific care or support services by health planning region.

The proportion of African Americans with AIDS exceeds the corresponding proportion of the general population in each of the health planning regions. This finding would indicate that HIV/AIDS health and support service providers can reasonably expect to provide proportionately more service to those of African descent than to Caucasians, Latinos, Asian Pacific Islanders and Native Americans.

Caucasians constitute 46% of the AIDS cases who resided in the east valley at the time of initial diagnosis, 48% in the west valley, 69% in the desert and 58%, 56% and 74% of the general population, respectively.

The proportions of Latinos with AIDS are comparable to the proportions of Latinos in the general population in each of the three health planning regions.

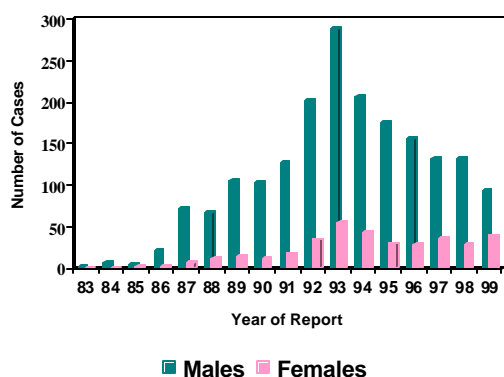
There is a difference in the proportions of men who have sex with men and IDUs with AIDS between the east valley and the west valley. A larger proportion (18%) of east valley cases are associated with IDU when compared with the west valley (13%). At the same time, the proportion of west valley cases attributed to sex between men (61%) is greater than that for the east valley (52%). The distribution of AIDS cases associated with these two risk factors in the desert health planning region is comparable to that of the east valley. There are no meaningful differences in the regional distribution of community AIDS cases associated with sex between men in addition to IDU, receipt of factor concentrate, transfusion, perinatal transmission or heterosexual contact.

TABLE 13. Community AIDS cases by health planning region, gender, race/ethnicity and risk profile, San Bernardino County, 1983-December 31, 1999*

	East Valley		West Valley		Desert		Total	
Male	879	83%	669	86%	336	85%	1,884	84%
Female	187	17%	105	14%	58	15%	350	16%
Total	1,066		774		394		2,234	100%
Caucasian	491	46%	372	48%	271	69%	1,134	51%
Latino	296	28%	258	33%	52	13%	606	27%
African American	260	24%	130	17%	61	15%	451	20%
Asian/Pacific Islander	12	1%	12	2%	3	1%	27	1%
Native American	7	1%	2	<1%	7	2%	16	1%
Sex between men	556	52%	471	61%	210	53%	1,237	55%
Injection Drug Use	196	18%	101	13%	63	16%	360	16%
Heterosexual contact	126	12%	76	10%	34	9%	236	11%
Sex between men/IDU	94	9%	64	8%	46	12%	204	9%
Transfusion	22	2%	21	3%	11	3%	54	2%
Receipt of factor concentrate	24	2%	6	1%	6	2%	36	2%
Perinatal transmission	10	1%	11	1%	11	3%	32	1%
Unknown	38	4%	24	3%	13	3%	75	3%
Column %		48%		35%		18%		

*Two homeless community cases are not included in this table

Figure 2 shows that the number of AIDS diagnoses among males increased most dramatically between 1985 (n=5) and 1987 (n=71). Between 1988 and 1992, inclusive, the annual number of cases increased from 67 to 202. In 1993, 288 cases were reported. A substantial number of the 1993 cases were reported as the result of changes in the surveillance case definition. The actual impact of the change will be described later in this report. The annual number of male cases declined to 207 in 1994, 174 in 1995, 155 in 1996, 131 in 1997, increased to 132 in 1998 and decreased to 92 in 1999. The latter represents a 30% decrease over the prior year and 68% fewer cases than were reported in 1993.

**FIGURE 2. Community AIDS cases by gender, San Bernardino County, 1983-December 31, 1999**

A dramatic increase in the number of cases among women occurred between 1986 (n=2) and 1989

(n=13). Between 1990 and 1992, inclusive, the annual number of cases increased from 12 to 34. In 1993, 54 cases were reported. While the proportionate increase in 1993 was greater for females (59%) when compared with males (43%), it is important to recognize that the ratio of male to female cases was 5.7:1. The annual number of female cases was 42 in 1994, 29 in 1995, 27 in 1996, 35 in 1997, 27 in 1998 and 39 in 1999. This represents a 44% increase from 1998 and 28% fewer cases than were reported in 1993.

Figure 3 indicates that the number of AIDS diagnoses among Caucasians increased most dramatically between 1985 (n=5) and 1987 (n=54). Between 1988 and 1992, inclusive, the annual number of cases ranged from 46 to 123. In 1993, 197 cases were reported. The annual number of Caucasian cases was 123 in 1994, 103 in 1995, 77 in 1996, 60 in 1997, 62 in 1998 and 50 in 1999. This represents 75% fewer cases than were reported in 1993.

The first case among Latinos was reported in 1984. The annual number of cases among this racial/ethnic group showed the greatest increase between 1986 (n=3) and 1992 (n=69). In 1993, 71 cases were reported. The annual number of Latino cases was 72 in 1994, 50 in 1995, 53 in 1996, 68 in 1997, 49 in 1998 and 50 in 1999. The last observation represents a 2% increase from the previous year.

The first two African American cases were reported in 1985. The annual number of cases

among this racial group increased most dramatically between 1986 (n=4) and 1990 (n=25). Twenty-six cases were reported in 1991 and 40 were reported in 1992. In 1993, 66 cases were reported. The annual number of African American cases was 48 in 1994, 48 in 1995, 48 in 1996, 33 in 1997, 43 in 1998 and 28 in 1999. The latter represents a 35% decrease from the previous year.

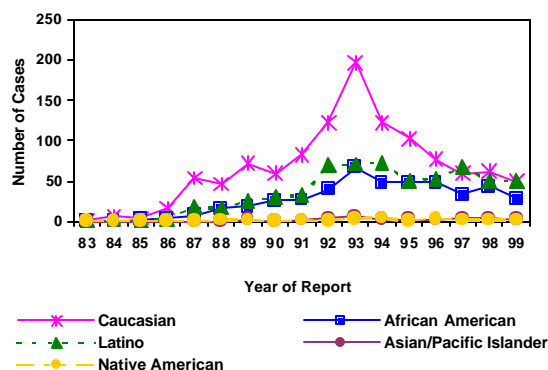


FIGURE 3. Community AIDS cases by racial/ethnic group, San Bernardino County, 1983-December 31, 1999

The first two cases among Asian/Pacific Islanders were reported in 1989. Between 1990 and 1992, inclusive, the annual number of cases ranged from 0 to 4. In 1993, 5 cases were reported. The annual number of Asian/Pacific Islander cases was 2 in 1994, 2 in 1995, 1 in 1996, 4 in 1997, 4 in 1998 and 2 in 1999.

The first Native American case was reported in 1988. Between 1989 and 1992, inclusive, the annual number of cases ranged from 0 to 1. In 1993, 3 cases were reported. The annual number of Native American cases was 4 in 1994, 0 in 1995, 3 in 1996, 1 in 1997, 1 in 1998 and 1 in 1999.

When evaluating these data, it is important to recognize that the numbers are relatively small, and therefore, variable. Epidemiologically, it is of greater utility to study rates of disease. Rates are determined by dividing the number of cases in a selected group by the total population for that selected group. Rates provide an estimate of risk within a given community.

Figure 4 indicates that the incidence rate (IR) of AIDS among Caucasians increased dramatically between 1985 (IR=0.6/100,000) and 1987

(IR=7.3/100,000). Between 1988 and 1992, inclusive, the incidence rate ranged from 5.8/100,000 to 13.6/100,000. In 1993, the incidence rate was 21.7/100,000 based on 197 cases. The rate decreased to 13.6/100,000 (n=123) in 1994, 11.4/100,000 (n=103) in 1995, 8.5/100,000 (n=77) in 1996, 6.6/100,000 (n=60) in 1997 and 6.8/100,000 (n=62) in 1998. Population estimates by race/ethnicity for 1999 were not available.

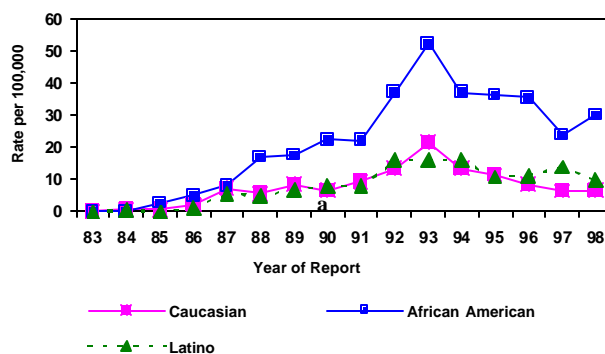


FIGURE 4. Community AIDS case rates/100,000* for selected racial/ethnic groups, San Bernardino County, 1983-December 31, 1998

*Mid-year population estimates for each racial/ethnic group were used to calculate incidence rates

The incidence rate among Latinos increased significantly between 1986 (IR=1.1/100,000) and 1991 (IR=7.8/100,000). Between 1992 and 1994, inclusive, the rate remained essentially the same (.16/100,000). In 1995, the incidence among Latinos was 10.8/100,000 based on 50 cases and was comparable in 1996 (11.2/100,000 based on 53 cases). In 1997, the incidence rate for Latinos was 13.9/100,000 (n=68) and 9.7/100,000 (n=49) in 1998.

The rate among African Americans has increased dramatically since the first cases from this racial/ethnic group were reported in 1985. The rate increased from 2.8/100,000 in 1985 to 32.6/100,000 in 1992. In 1993, the incidence rate was 52.2/100,000 based on 66 cases and clearly represents the highest rate of disease for any racial/ethnic group in San Bernardino County. The rate among African Americans declined to 37.1/100,000 (n=48) in 1994, and remained stable in 1995 (IR=36.3/100,000, n=48) and 1996 (35.6/100,000, n=48). In 1997, the incidence rate for African Americans was 23.8/100,000 (n=33) and 30.0/100,000 (n=43) for 1998.

In 1998, the rate among African Americans was 4.4 times that for Caucasians and 3.1 times the rate for Latinos. It must be understood that one's racial/ethnic group alone does not place one at increased risk for AIDS or HIV infection. This disease is associated with well recognized risk behaviors. Since the overwhelming majority of San Bernardino County community cases have been associated with sex between men and IDU (see tables 7 and 8), prevention education activities have been targeted toward those who engage in same. These data do, however, support the need to place special emphasis on African Americans who engage in behaviors that place them at increased risk for HIV infection.

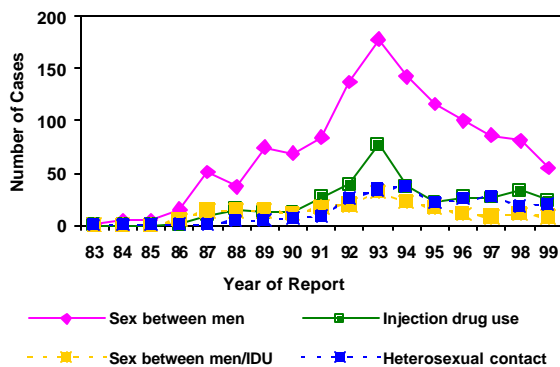


FIGURE 5. Community AIDS cases by probable source of infection, San Bernardino County, 1983-December 31, 1999

Figure 5 indicates that the first San Bernardino County case associated with sex between men was reported in 1983. It is clear that the number of cases attributable to this behavior increased most dramatically between 1984 (n=5) and 1987 (n=51). Between 1988 and 1992, inclusive, the number of cases ranged from 37 to 137. In 1993, 178 cases were reported. The annual number of cases associated with men who have sex with men was 142 in 1994, 116 in 1995, 100 in 1996, 86 in 1997, 81 in 1998 and 55 in 1999. The latter represents a 32% reduction from the previous year and one of 69% from the peak in 1993.

The first five cases associated with sex between men in addition to IDU were reported in 1986. Between 1987 and 1992, inclusive, the number of cases remained fairly stable. In 1993, 32 cases were reported. The annual number of cases associated with men who have sex with men in

addition to IDU was 22 in 1994, 17 in 1995, 11 in 1996, 8 in 1997, 11 in 1998 and 8 in 1999.

The first case associated with heterosexual contact was reported in 1985. Between 1986 and 1991, inclusive, the annual number of cases attributable to heterosexual contact was less than 10. Twenty-six cases were reported in 1992. In 1993, 34 cases were reported. The annual number of cases associated with heterosexual contact was 37 in 1994, 21 in 1995, 25 in 1996, 27 in 1997, 18 in 1998 and 20 in 1999.

The first case associated with IDU alone was reported in 1986. This was followed by substantial annual increases in 1987 (n=9) and 1988 (n=15). Between 1989 and 1992, inclusive, the annual number of cases varied from 12 to 39. In 1993, 77 cases were reported. The annual number of cases associated with IDU alone was 37 in 1994, 22 in 1995, 27 in 1996, 26 in 1997, 33 in 1998 and 24 in 1999. The relative stability in the annual number of cases associated with IDU between 1996 and 1998, inclusive, is of considerable concern to the Department of Public Health because it is not declining.

It is clear from these data that sex between men remains the most frequently reported risk factor for those diagnosed with an AIDS defining condition in San Bernardino County. These data also suggest that in terms of reported cases associated with these risk factors, the epidemic peaked in 1993.

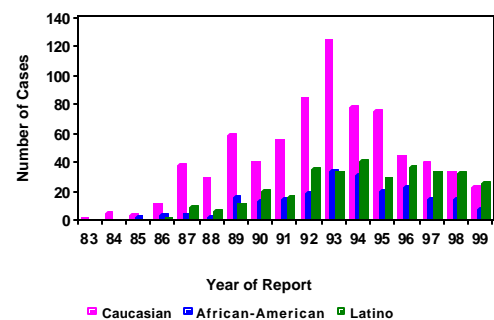


FIGURE 6. Community AIDS cases associated with sex between men by selected racial/ethnic groups, San Bernardino County, 1983-December 31, 1999

Figure 6 shows that the majority of cases associated with sex between men have occurred among Caucasians. The annual number of cases associated with men who have sex with men

increased through 1993. In 1994, the number of cases declined by 37% among Caucasians, 9% among African Americans, and increased by 24% among Latinos. In 1995, the number of cases decreased by 4% among Caucasians, 35% among African Americans, and 29% among Latinos. In 1996, the number of cases declined by 41% among Caucasians, increased by 15% among African Americans, and increased by 24% among Latinos. The number of AIDS cases associated with sex between men declined again for these three racial/ethnic groups in 1997. The decreases were 11% among Caucasians, 39% for African Americans and 8% among Latinos. In 1998, the number of reported cases decreased by 15% among Caucasians, remained the same for African American and decreased by 3% among Latino men who have sex with men. In 1999 the number of reported cases decreased by 30% among Caucasians, decreased by 43% among African Americans and decreased by 22% among Latino men who have sex with men.

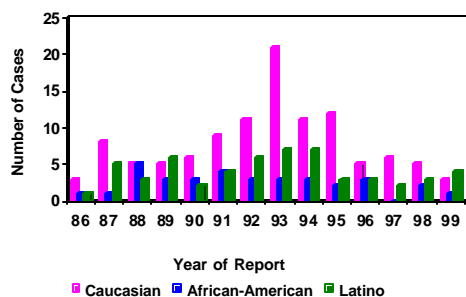


FIGURE 7. Community AIDS cases associated with sex between men and injection drug use by selected racial/ethnic groups, San Bernardino County, 1986–December 31, 1999

Figure 7 indicates that the largest proportion of cases associated with sex between men in addition to IDU has occurred among Caucasians. In 1994, the number of cases associated with sex between men in addition to IDU declined by 48% among Caucasians but remained stable among African Americans and Latinos. By 1998, only ten cases associated with sex between men in addition to IDU were reported among these selected racial/ethnic groups and eight in 1999.

Figure 8 shows that the largest proportion of cases among injection drug using males has occurred among Caucasians. The number of cases peaked for these three racial/ethnic groups in 1993. The

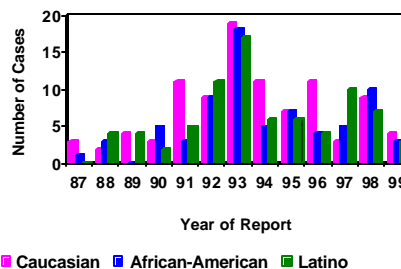


FIGURE 8. Male community AIDS cases associated with injection drug use by selected racial/ethnic groups, San Bernardino County, 1987–December 31, 1999

average annual number of cases (0=19.2) for the three racial/ethnic groups under study has remained remarkably stable between 1994 and 1999, inclusive.

Figure 9 shows that the number of reported cases peaked for Latina IDUs in 1992, for Caucasian female IDUs in 1993 and for African American injection drug using women in 1994. In 1999, 14 cases of AIDS among women were attributed to IDU.

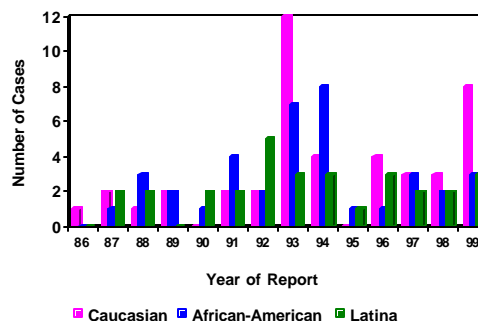


FIGURE 9. Female community AIDS cases associated with injection drug use by selected racial/ethnic groups, San Bernardino County, 1985–December 31, 1999

Figure 10 shows that the largest proportion of female cases associated with heterosexual contact has been among Caucasians. The annual number of cases among heterosexual Latinas and African American women were comparable until 1993. Since then, the total number of cases among Caucasians and African Americans has been comparable with fewer cases being reported among Latinas. In 1999 12 cases of AIDS among women were associated with heterosexual contact.

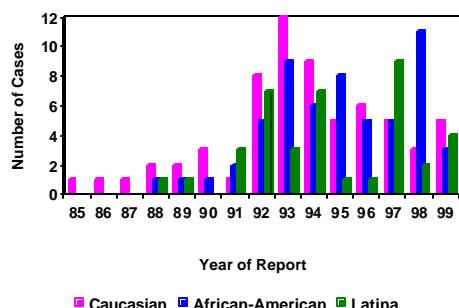


FIGURE 10. Female community AIDS cases associated with heterosexual contact by selected racial/ethnic groups, San Bernardino County, 1985-December 31, 1999

AIDS Cases by Survival Status

Table 14 provides insight into the future health and support service needs of persons living with AIDS in San Bernardino County. Changes in the demography of the epidemic can be detected by comparing relative proportions of the living and the dead. For example, the percentage of those living with AIDS who are female is greater than the proportion of females among those who have died. This presumably reflects increases in heterosexual transmission and injection drug use among women as has been reported elsewhere in the United States. The implication of these data is that HIV-related health and support services must be increasingly sensitive to the unique needs of women living with HIV/AIDS.

The increasing proportion of people of color living with AIDS over time reflects the “changing face” of the epidemic described throughout the nation. The implication for health planners is the increasing need to provide health and support services which are culturally competent and linguistically appropriate.

The declining proportion of older persons living with AIDS may be explained by the reduction in the annual number of cases associated with transfusion. Fifty-two (96%) of the 54 transfusion associated cases in San Bernardino County have occurred among adults. Twenty-two (41%) of those were people 50 years of age or older whose risk was receipt of a transfusion. The apparent change in the risk profile of persons living with AIDS is also worthy of discussion. It is not surprising that the number of factor concentrate

and transfusion recipients living with AIDS has declined. Routine screening of the blood supply was instituted in the spring of 1985. This significantly reduced the likelihood of infections associated with the blood supply. The decline in the number of gay and bisexual men living with AIDS probably reflects behavior change that was initiated within the gay community as early as 1983. The increase in the proportion of heterosexuals living with AIDS also speaks to the changing epidemiology of the disease. It is believed that health planners and providers must use data such as these to better plan to meet the health and support service needs of persons living with HIV/AIDS.

TABLE 14. Community AIDS cases by survival status, gender, race/ethnicity, age, and risk profile, San Bernardino County, 1983-December 31, 1999

	Living		Dead	
Male	766	81%	1,119	87%
Female	181	19%	170	13%
Total	947		1,289	100%
Caucasian	429	45%	706	55%
Latino	286	30%	320	25%
African American	209	22%	243	19%
Asian/Pacific Islander	15	2%	12	1%
Native American	8	1%	8	1%
<5	11	1%	16	1%
5-12	5	1%	5	<1%
13-19	5	1%	8	1%
20-29	190	20%	248	19%
30-39	437	46%	538	42%
40-49	223	24%	310	24%
50+	76	8%	164	13%
Sex between men	498	53%	739	57%
Injection drug use	145	15%	217	17%
Sex between men/IDU	83	9%	121	9%
Heterosexual contact	126	13%	110	9%
Transfusion	22	2%	32	3%
Receipt of factor conc.	10	1%	26	2%
Perinatal transmission	14	1%	18	1%
Unknown	49	5%	26	2%

Impact of 1993 Revision of AIDS Surveillance Case Definition

In 1993, the CDC expanded its AIDS surveillance case definition to include pulmonary tuberculosis, invasive cervical carcinoma, recurrent bacterial pneumonia and CD4 lymphocyte counts of less than 200 cells/mm³. These AIDS defining conditions must be accompanied by evidence of HIV infection. One hundred eighty-two (53%) of the 342 community cases reported in San Bernardino County in 1993 would not have been

reported were it not for the expansion of the surveillance definition. It is somewhat surprising that the demography and risk profile of the 182 cases meeting only the 1993 changes in the surveillance definition were very similar to those cases that met the 1987 surveillance criteria.

It is believed that 1993 marked the peak for reports of AIDS cases within San Bernardino County. This belief is supported by the apparent completeness of reporting, by the fact that seroprevalence is declining or is at very low levels across all testing programs and that one of the recent changes in the CDC surveillance criteria (CD4 count <200 cells/mm³) became the most frequently reported AIDS defining condition within less than fifteen months. Based on existing data and our understanding of the natural history of the disease, the only condition that might have a comparable effect on case reporting would be to require reporting of HIV seropositivity.

Estimate of Persons Living with HIV

During the early 1990s, the CDC developed a mathematical model to predict the number of persons living with HIV in a given jurisdiction. The model was based on the number of persons known to be living with AIDS; an estimate of the number of persons infected with HIV but not diagnosed with an AIDS defining illness; and an estimate of the number of people with =200 CD4 cells/mm³. The AIDS Program's AIDS case registry indicated that there were 939 people living with AIDS in San Bernardino County as of December 31, 1999. After applying the CDC model, it was determined that there are approximately 3,066 persons living with HIV in San Bernardino County (note: only community cases were used in these calculations). This model has since fallen into disfavor among some epidemiologists. In response, the CDC has suggested that the best estimates for persons living with HIV were those developed in 1995. This suggestion is predicated on the facts that the annual rate of new infections has remained stable and HAART has dramatically reduced the mortality rate. According to the April 1996 issue of the *San Bernardino County AIDS Program Report* (Vol XII, No. 2, p13) there were 3,800 persons living with HIV in San Bernardino County in 1995.

These estimates, irrespective of the time period under study, must be interpreted with caution due to the fact that they are based on reported AIDS cases. Not all AIDS cases are reported and the new treatment regimens have slowed the progression from HIV infection to the development of an AIDS defining condition. These developments, coupled with the fact that HIV is not reportable in California, make the generation of accurate estimates challenging.

Years of Potential Life Lost

Table 16 indicates that as of December 31, 1999, the HIV epidemic has resulted in 1,289 deaths and 35,085 years of potential life lost for San Bernardino County residents.

TABLE 16. Years of potential life lost (YPLL) to age 65 among community AIDS cases by age group, San Bernardino County, 1983-December 31, 1999

Age group	AIDS deaths	1990 Pop.	Avg years to 65	YPLL
<5	16	138,342	62.5	1,000
5-14	6	240,987	55	330
15-24	60	214,310	45	2,700
25-34	465	271,965	35	16,275
35-44	473	213,007	25	11,825
45-54	174	122,370	15	2,610
55-64	69	92,499	5	345
65-74	21	75,716		
75-84	5	38,407		
85+	0	10,777		
Total	1,289	1,418,380		35,085

Economic Impact

There are a number of methods by which to estimate the economic impact of the HIV epidemic. Fred Hellinger, PhD of the Division of Cost and Financing, United States Public Health Service estimated that the lifetime cost for providing medical care to one person with HIV was \$119,000. If the assumptions upon which his estimate is based are correct, the epidemic will cost the health care system at least \$266,084,000 based on the 2,236 community AIDS cases reported within San Bernardino County as of December 31, 1999. If one were to consider the potential cost based on the estimates of 3,066 and 3,800 persons living with HIV, then an additional \$364,854,000 to \$452,200,000 would be required to provide medical care. It is important to recognize that these costs are for medical care only and do not represent the costs for support services such as case management, mental health counseling, dental care, housing, substance abuse

counseling and treatment, home health care, transportation, food services and legal assistance.

TABLE 17. Loss of earning power among community AIDS cases by age group, San Bernardino County, 1983-December 31, 1999

Age Group	AIDS Deaths	Avg Years to 65	YPLL	Economic Loss
25-34	465	35	16,275	\$601,800,675
35-44	473	25	11,825	437,253,025
45-54	174	15	2,610	96,509,970
55-64	69	5	345	12,757,065
Total	1,181		31,055	\$1,148,320,735

A supplemental approach would be to calculate the loss of earning power within the county. It is recognized that all of those with AIDS do not contribute equally to the economic base. However, if one were to assume that the average person with AIDS would have worked from the age of 25 until 65 at the median annual income, then the economic loss to San Bernardino County based on 1,181 deaths and 31,055 years of potential life lost would be \$1,148,320,735. Regardless of how one estimates the impact of the

HIV epidemic (years of potential life lost, cost for medical care, or loss of earning power for the community), it must minimally be described as catastrophic. It is incumbent upon all citizens to support primary and secondary prevention education efforts so as to reduce the future social and economic cost of this epidemic.

Figures 11 through 13, inclusive, show maps of reported community AIDS case rates during the first six years, first 11 years and first 16 years of the epidemic in San Bernardino County. Figure 14 shows persons living with AIDS in San Bernardino County by zip code as of December 31, 1999. The map is interesting in that some zip codes in the desert region no longer have resident cases. Regardless, maps such as these are extremely useful to provide visual evidence of the geographic distribution and concentration of reported AIDS cases within San Bernardino County.

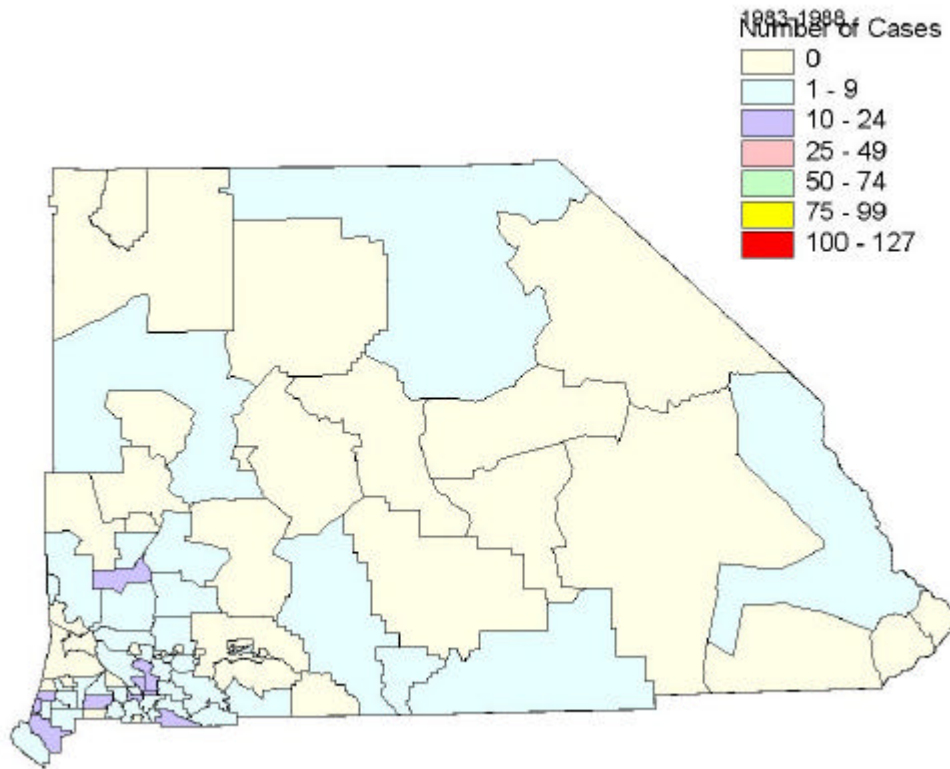


FIGURE 11. AIDS cases by zip code, San Bernardino County, 1983-1988

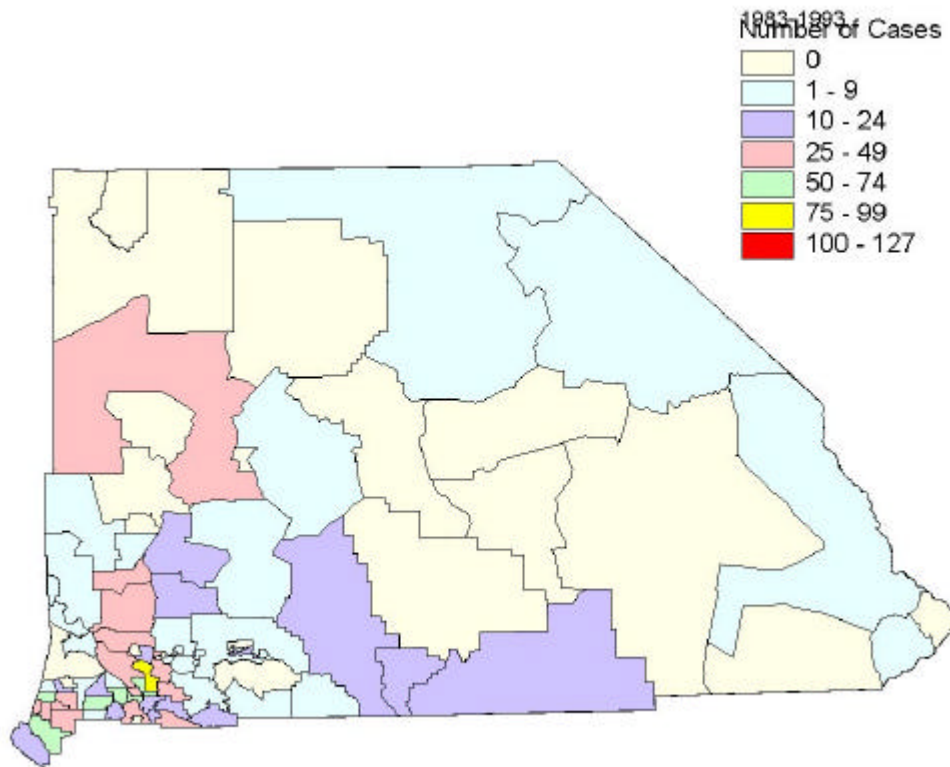


FIGURE 12. AIDS cases by zip code, San Bernardino County, 1983-1993

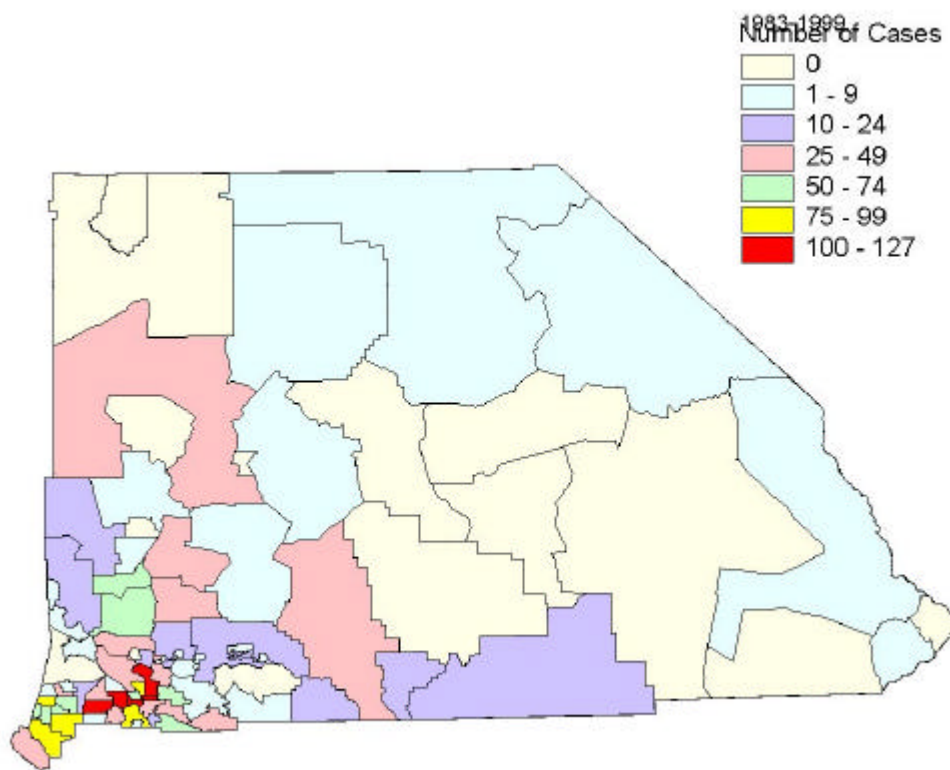


FIGURE 13. AIDS cases by zip code, San Bernardino County, 1983-1999

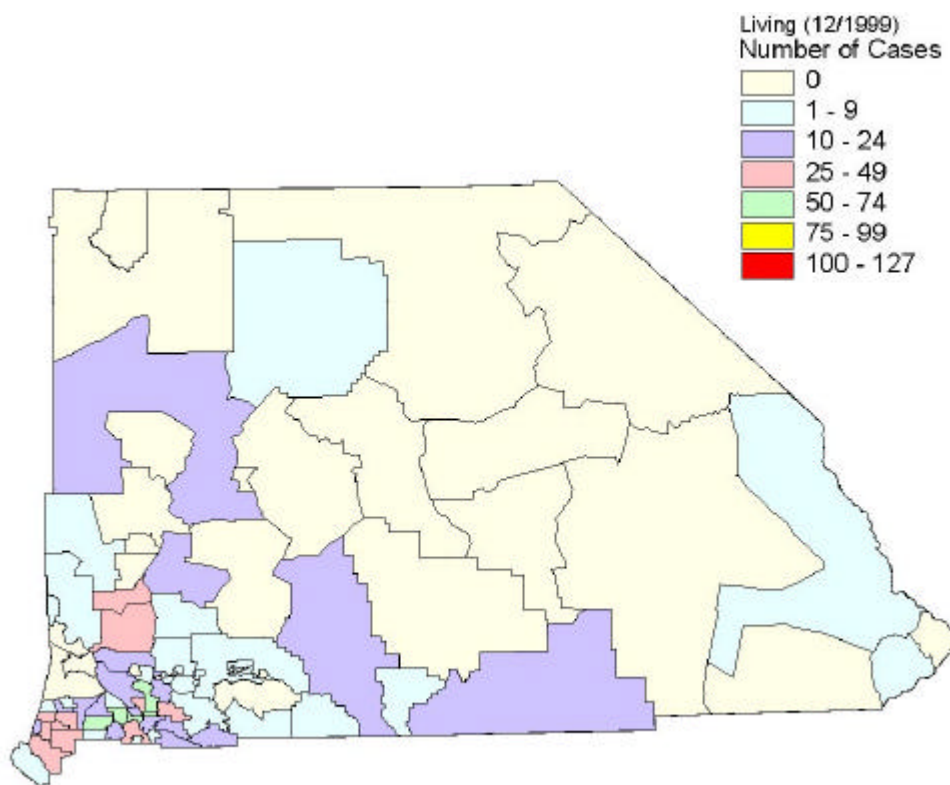


FIGURE 14. Persons living with AIDS by zip code, San Bernardino County, 1999

Institutional Cases

Institutional cases are defined as persons with one or more AIDS defining conditions who were incarcerated in a state prison or hospital at the time of their initial diagnosis.

The California Institution for Men (CIM) in Chino opened its Del Norte facility to HIV-infected inmates in 1987. The majority of inmates assigned to CIM are from Southern California counties. The California Institution for Women (CIW) in Frontera is one of three penitentiaries for women in California with an HIV unit. Patton State Hospital (PSH) is a forensic psychiatric hospital which accepts HIV-infected patients. The total number of institutional cases reported to date is 396 (CIM=346, CIW=33, PSH=17).

The age distribution presented in table 18 differs from that of the community cases. This is not surprising as one would not expect the very old nor the very young to be represented among those incarcerated.

The proportion of incarcerated Caucasians (see table 19) with AIDS (33%) is much lower than that within the community (51%). The proportion of African Americans with AIDS in the prisons (42%) is much higher than that within the community (20%). The proportion of Latinos

TABLE 18. Institutional AIDS cases by age group, San Bernardino County, 1988-December 31, 1999

<5	0	0%
5-12	0	0%
13-19	1	<1%
20-29	107	27%
30-39	200	51%
40-49	76	19%
50+	12	3%
Total	396	100%

with AIDS among the incarcerated (23%) is similar to that reported within the community (27%).

TABLE 19. Institutional AIDS cases by race/ethnicity, San Bernardino County, 1988-December 31, 1999

African American	168	42%
Caucasian	130	33%
Latino	92	23%
Asian/Pacific Islander*	3	1%
Native American	3	1%
Total	396	100%

*2 Japanese, 1 unspecified

The risk profile for the institutional cases presented in tables 20 and 21 is also different from that of the community. Eighteen percent of the institutional cases have been associated with sex between men while 55% of the community cases have shared the same risk factor. Forty-four percent of the institutional cases have been attributed to IDU while only 16% of the community cases have been attributed to IDU alone. Thirty-four percent of the institutional cases have reported sex between men in addition to IDU as their probable source of infection in contrast to 9% of the community cases. Two percent of the institutional cases have been associated with heterosexual contact compared to 11% of the community cases.

The distribution of institutional cases by gender also differs from that of the community cases. Ninety-one percent of the institutional cases have occurred among males compared with 84% of the community cases. It is noteworthy that one prisoner incarcerated within CIW underwent a sex-change surgical procedure, thereby explaining the fact that there have been 33 cases reported from CIW, but only 32 have been identified as female. Three females have been reported from PSH.

TABLE 20. Male institutional AIDS cases by probable source of infection and race/ethnicity, San Bernardino County, 1988-December 31, 1999

Probable Source of Infection	Race/Ethnicity					Total	Row%
	African Am	Caucasian	Latino	Native Am	Asian/Pac Is		
Injection drug use	51	40	47	2	1	141	39%
Sex between men/IDU	53	54	24	0	2	133	37%
Sex between men	34	23	12	1	0	70	19%
Heterosexual, partner IDU	5	0	1	0	0	6	2%
Heterosexual, partner HIV+	1	1	0	0	0	2	1%
No history obtained/unknown	6	0	2	0	0	8	2%
Total	150	118	86	3	3	360	
Column%	42%	33%	24%	1%	1%		100%

TABLE 21. Female institutional AIDS cases by probable source of infection and race/ethnicity, San Bernardino County, 1988-December 31, 1999

Probable Source of Infection	Race/Ethnicity					Total	Row%
	African Am	Caucasian	Latina	Native Am	Asian/Pac Is		
Injection drug use	18	11	6	0	0	35	97%
Transfusion	0	1	0	0	0	1	3%
No history obtained/unknown	0	0	0	0	0	0	0%
Total	18	12	6	0	0	36	
Column%	50%	33%	17%	0%	0%		100%

TABLE 22. Institutional AIDS case annual and cumulative mortality rates by year of report, San Bernardino County, 1983-December 31, 1999

Year	Reported	Deaths	Fatality	Cumulative
1988	10	10	100%	100%
1989	52	37	71%	76%
1990	27	24	89%	80%
1991	19	15	79%	80%
1992	23	20	87%	81%
1993	117	54	46%	65%
1994	60	20	33%	58%
1995	41	11	27%	55%
1996	31	3	10%	51%
1997	9	4	44%	51%
1998	4	0	0%	50%
1999	3	1	33%	50%
Total	396	199		

The annual and cumulative mortality rates for institutionalized cases presented in table 22 are generally lower than those for the community. The observed differences are most likely due to the fact that when inmates are released, the majority are paroled to counties other than San

Bernardino. Such individuals are often lost to follow-up. This problem may be compounded if subsequent death certificates do not contain any reference to HIV or AIDS.

The change in the 1993 surveillance case definition had a similar effect on institutional reporting as it had on community cases. Sixty-one (52%) of the 117 cases reported in 1993 would not have been reported were it not for the expansion of the surveillance case definition.

Table 23 shows the distribution of AIDS defining illnesses for those incarcerated within CIM, CIW and PSH. The frequency of diagnoses with pulmonary tuberculosis is greater among the institutionalized than within the community (see table 9). The implications for disease control within prisons are clear. Tuberculosis testing, preventive therapy and treatment of active cases must be available to the residents of all institutions.

TABLE 23. Institutional AIDS cases by AIDS defining condition, San Bernardino County, 1983-December 31, 1999

CD4 Lymphocyte count < 200 cells/mm ³	239	31%
Pneumocystis carinii pneumonia	144	19%
Wasting syndrome due to HIV	94	12%
Mycobacterium tuberculosis, pulmonary	57	7%
Kaposi's sarcoma	35	5%
Candidiasis, esophageal	29	4%
M. tuberculosis, disseminated or extrapulmonary	28	4%
HIV encephalopathy (dementia)	19	2%
Herpes simplex: Chronic ulcer(s) (>1 month duration)	18	2%
Cryptococcosis, extrapulmonary	16	2%
M. avium complex or M. kansasii, disseminated extrapulmonary	16	2%
Candidiasis, bronchi, trachea, or lungs	12	2%
Cytomegalovirus disease (other than in liver, spleen or nodes) onset at >1 month of age	12	2%
Coccidioidomycosis, disseminated or extrapulmonary	9	1%
Toxoplasmosis of brain, onset at >1 month of age	9	1%
Cytomegalovirus retinitis (with loss of vision)	6	1%
Lymphoma, immunoblastic (or equivalent term)	6	1%
Carcinoma, invasive cervical	5	1%
Mycobacterium, of other species or unidentified species, disseminated or extrapulmonary	5	1%
Cryptosporidiosis, chronic intestinal	4	1%
Progressive multifocal leukoencephalopathy	3	<1%
Lymphoma, primary brain	2	<1%
Isosporiasis	1	<1%
Pneumonia, recurrent in a 12 month period	1	<1%
Total Reports of Disease	770	100%
Total Cases	396	

TABLE 24. AIDS cases by jurisdiction of report, San Bernardino County out-of-county AIDS case registry, 1983-July 22, 2000

Jurisdiction	Cases	Row %
Alabama	1	<1%
Arizona	8	1%
Arkansas	1	<1%
California	1,195	
Los Angeles	503	39%
Riverside	361	28%
Orange	57	4%
San Diego	57	4%
Kern	37	3%
San Francisco	34	3%
San Luis Obispo	17	1%
Long Beach	15	1%
Marin	15	1%
Solano	14	1%
Sonoma	8	1%
Alameda	7	1%
Kings	7	1%
Monterey	7	1%
Sacramento	6	<1%
Tuolumne	6	<1%
Santa Barbara	5	<1%
Fresno	4	<1%
San Mateo	4	<1%
Ventura	4	<1%
Contra Costa	3	<1%
Imperial	3	<1%
Santa Clara	3	<1%
Del Norte	2	<1%
Lassen	2	<1%
Merced	2	<1%
Pasadena	2	<1%
San Joaquin	2	<1%
Tulare	2	<1%
Amador	1	<1%
Butte	1	<1%
El Dorado	1	<1%
Humboldt	1	<1%
Shasta	1	<1%
Stanislaus	1	<1%
Colorado	5	<1%
Connecticut	1	<1%
Florida	7	1%
Georgia	4	<1%
Hawaii	3	<1%
Illinois	4	<1%
Indiana	2	<1%
Kansas	1	<1%
Louisiana	1	<1%
Maine	1	<1%
Massachusetts	2	<1%
Minnesota	2	<1%
Nebraska	1	<1%
Nevada	18	1%
New Jersey	3	<1%
New York	13	1%
Ohio	1	<1%
Oklahoma	3	<1%
Oregon	4	<1%
Pennsylvania	4	<1%
South Carolina	2	<1%
Tennessee	1	<1%
Texas	13	1%
Virginia	1	<1%
Washington	3	<1%
Total	1,305	100%

Completeness of Reporting

It is believed that the reporting of AIDS cases within San Bernardino County is very good. The AIDS Program accesses a number of resources for reports of AIDS/HIV disease. These include:

- Public and Private Hospitals
- Private Physicians and Community Clinics
- Other Health Departments
- Death Certificates
- AIDS Drug Assistance Program
- Tumor and Tuberculosis Registries
- Confidential HIV Antibody Testing Programs
- Blood Bank Screening Programs
- Blinded Seroprevalence Studies
- California Department of Corrections
- California Department of Health Services, Office of AIDS
- Centers for Disease Control and Prevention
- United States Department of Defense

In addition to its local AIDS case registry, the AIDS Program maintains an out-of-county AIDS case registry for people who receive an AIDS diagnosis from a local provider but either reside in another jurisdiction or were previously reported by another jurisdiction (see table 24). Fully 1,305 (32%) of the 3,998 people receiving an AIDS diagnosis within San Bernardino County through July 22, 2000 have been allocated to another jurisdiction.

TABLE 25. Facilities where 20 or more San Bernardino County AIDS cases have been diagnosed, San Bernardino County, 1983-December 31, 1999

Name	Number	Row %
San Bernardino County HIV Clinics	844	32%
California Institution for Men	305	12%
Arrowhead Regional Medical Center ¹	263	10%
Kaiser Permanente-Fontana	188	7%
Jerry L Pettis Veterans' Medical Center	96	4%
Riverside County Regional Medical Center ²	72	3%
Loma Linda University Medical Center	65	3%
San Antonio Community Hospital	53	2%
St. Bernardine Medical Center	51	2%
San Bernardino Community Hospital	33	1%
Pomona Valley Community Hospital	25	1%
Desert AIDS Project HIV Health Center	24	1%
Redlands Community Hospital	24	1%
More than 115 others	589	22%
Total	2,632	100%

¹ Formerly San Bernardino County Medical Center

² Formerly Riverside General Hospital-University Medical Center

The first reported case of AIDS in San Bernardino County was diagnosed at the UCLA Medical Center. Since then, more than 125 hospitals, clinics, or private medical practices have been credited with making diagnoses of AIDS among San Bernardino County residents. Table 25 names the facilities where 20 or more cases have been diagnosed.

In 1983, Filemon Quinio, MD diagnosed the first reported case of AIDS in San Bernardino County. Since then, more than 650 others have made diagnoses of AIDS among San Bernardino County residents. Table 26 lists the names of local physicians who have diagnosed 25 or more cases.

TABLE 26. Physicians who have diagnosed 25 or more cases of AIDS, San Bernardino County, 1983-December 31, 1999

Name	Number	Percent
Ryan E Zane, MD	291	11%
Herbert Meyer, MD	238	9%
Christian O Christensen, MD	180	7%
Harvey A Elder, MD, MS	76	3%
Bessie Hwang, MD, MPH	74	3%
Herbert A Giese Jr, MD, MPH	70	3%
Daniel P Gluckstein, MD	57	2%
Bruce E Smith, MD, MPH	50	2%
Charles Salemi, MD	43	2%
Richard C Thorsen, MD	42	2%
Richard Morrissey, MD	39	1%
Steven Larson, MD	29	1%
Ahn Nong, MD	28	1%
More than 650 others	1,415	54%
Total	2,632	

TABLE 27. Persons investigating 50 or more reported cases of AIDS, San Bernardino County, 1983-December 31, 1999

Name	Number	Percent
Diana Y Liu, MPH	407	16%
Linda L Gier	270	10%
Steven R Wyant	261	10%
Alexander F Taylor, MPH	247	9%
Jon C Sherwin, MPH	236	9%
Kimberly A Poggemeyer, MPH	217	8%
Emmett Resendez	196	7%
Elena O Lingas, MPH	110	4%
Lori M Rodriguez	93	4%
Kimberly S Woods, MPH	89	3%
Cherie D Torquato, RN	83	3%
Kalpna Shah, MPH	73	3%
Maria C Moody, LVN	68	3%
50 Others	282	11%
Total	2,632	

The first AIDS case reported in San Bernardino County was investigated by Alexander Taylor, MPH. Since then, more than 60 persons have completed investigations of AIDS diagnoses among San Bernardino County residents. Table 27 includes the names of those who have investigated 50 or more cases.

Timeliness of reporting has been an important issue since this epidemic was first recognized. Figure 15 illustrates when cases were diagnosed and reported in San Bernardino County. Prior to 1993, the annual number of cases diagnosed exceeded that which was reported. The expansion of the AIDS surveillance case definition in 1993 allocated diagnoses to prior years but marked the

first year where reported cases exceeded diagnoses of AIDS. Since then, the number of reported cases has exceeded the number diagnosed. This is explained by the actual decline in persons diagnosed with AIDS and the identification of previously unreported cases. It is anticipated that this pattern will continue until some endemic level of disease is reached and reporting becomes timely and complete. In all likelihood, the former will be realized before the latter is achieved.

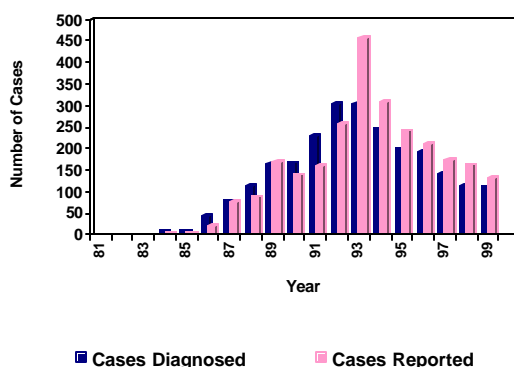


FIGURE 15. AIDS cases by year of diagnosis and year of report, San Bernardino County, 1981-December 31, 1999

Leading Causes of Death for Persons 25-44 Years of Age

Figure 16 shows that the number of deaths per 100,000 due to HIV/AIDS has advanced from its position as the seventh leading cause of death among males aged 25-44 years in San Bernardino County in 1985 to the second leading cause of death in 1993. It remained the second leading cause of death from 1993 through 1996. There was a dramatic decrease in HIV/AIDS deaths from 1995 to 1997. This is in all likelihood due to the introduction of highly active antiretroviral therapy (HAART). In 1998, the age specific death rate decreased by 71% from the previous year and AIDS declined to the sixth leading cause of death for males aged 25-44. Mortality data for 1999 are not yet available.

Figure 17 shows that the number of deaths per 100,000 due to HIV/AIDS moved from its position as the seventh leading cause of death among females aged 25-44 years in San Bernardino County in 1985 to the fifth leading

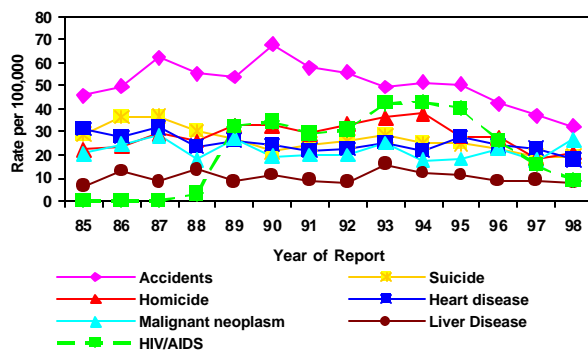


FIGURE 16. Leading causes of death per 100,000 males aged 25-44 years, San Bernardino County, 1985-December 31, 1998

cause of death in 1993. Deaths from HIV/AIDS remained fifth from 1993-1995 and was tied with suicide in 1995. In 1996, deaths from HIV/AIDS dropped to seventh as a leading cause of death, and dropped further in 1996 and remained the seventh leading cause of death through 1998. It is important from a public health perspective to recognize that malignant neoplasms, accidents, heart disease, suicide, homicide, drug dependence, cerebrovascular disease and diabetes mellitus all exceed HIV/AIDS as a cause of death for San Bernardino County women aged 25-44 years.

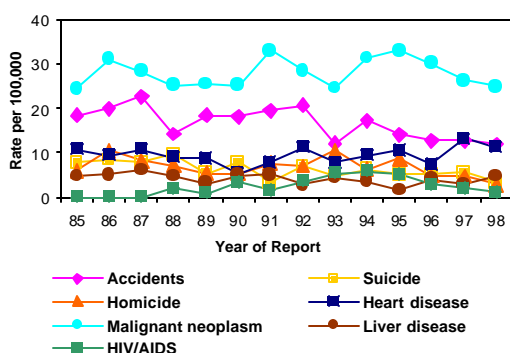


FIGURE 17. Leading causes of death per 100,000 females aged 25-44 years, San Bernardino County, 1985-December 31, 1998

Figure 18 indicates that between 1987 and 1992, inclusive, the HIV/AIDS related death rate per 100,000 United States males aged 25-44 was approximately twice that for San Bernardino County males within the same age group. While the corresponding death rates were much lower for women aged 25-44, the proportional difference between United States and San Bernardino County

females approximated that observed among males. Between 1993 and 1997, inclusive, the annual HIV/AIDS related death rate for San Bernardino County males aged 25-44 was approximately 71% of that for United States males within the same age group. The death rate for San Bernardino County females aged 25-44 remained approximately 46% that for their United States counterparts.

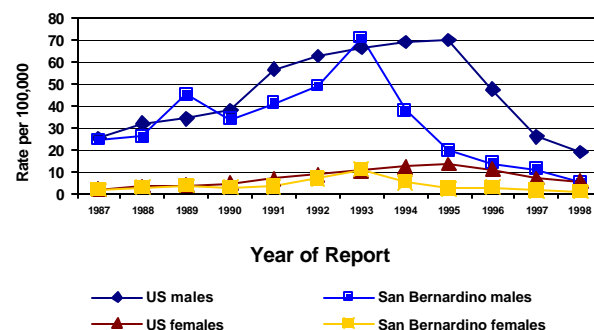


FIGURE 18. AIDS deaths/100,000, aged 25-44 years by gender, San Bernardino County and the United States, 1987-1998

HIV Clinic

The San Bernardino County HIV Clinic offered its first, four-hour block of outpatient medical care in the city of San Bernardino (east valley health region) on Thursday, March 29, 1990. Services include adult and pediatric medical examination, evaluation and treatment; tuberculosis screening and treatment; radiology; laboratory services (including flow cytometry to measure CD4 cell counts, quantitative polymerase chain reaction to measure extracellular viral RNA, HIV-1 genotyping and HIV-1 phenotyping assays for drug resistance); pharmacy and access to the AIDS Drug Assistance Program; referral for biomedical research; referral for treatment or procedures which exceed the clinic's scope of service; referral for dental examination and follow-up care; psychosocial evaluation and counseling; immunizations; health education and behavior change support; enhanced medication education to promote improved adherence to complex treatment regimens; family planning and maternal health services; nutritional assessment and counseling; WIC vouchers for eligible children and females; substance abuse counseling, treatment, and referral if indicated; and case

management for the development of a comprehensive health and support service plan, benefits counseling, and assistance and advocacy in finding needed services. It became readily apparent that four hours of service per week were insufficient to meet the demand for care. The clinic was expanded to eight hours of outpatient care per week beginning on Thursday, June 7, 1990. The AIDS Program was successful in securing Title III(b) funds under the Ryan White Comprehensive AIDS Resources Emergency Act of 1990 and added another four hours of clinical services per week beginning Wednesday, October 9, 1991. Beginning on Monday, June 8, 1992 a fourth four hour block of weekly outpatient care was added using Title III(b) funds. Two, four-hour blocks of services per week were added in Hesperia (desert health planning region) starting on July 2, 1993. Beginning on January 6, 1995, a four hour block of clinical services per week was added in Chino (west valley health planning region). In response to the growing number of clients entering or re-entering the work force, a two hour block of evening clinical services was added each week in San Bernardino beginning March 23, 1999.

Between January 1, 1999 and December 31, 1999, 177 new patients were enrolled in the San Bernardino County HIV Clinic. The total number enrolled to date is 2,121, and there have been 39,527 patient visits.

TABLE 28. Annual HIV clinic enrollees and visits, San Bernardino County, March 29, 1990-December 31, 1999

Year	New Patients	Enrollments per Month	Active Patients	Patient Visits	Visits per Month
1990	274	30	274	1,672	186
1991	231	19	455	2,917	243
1992	290	24	607	4,696	391
1993	238	20	666	4,547	379
1994	215	18	681	4,959	413
1995	195	16	649	4,448	371
1996	194	16	671	3,933	328
1997	163	14	663	4,025	335
1998	144	12	674	4,161	347
1999	177	15	712	4,169	347
Total	2,121	0=18	0=606	39,527	0=337

Table 28 shows that the annual number of new HIV clinic enrollees has varied (mean=212, standard deviation=46.95) over the first ten years of service. The number of patient visits increased dramatically between 1990 and 1992, inclusive. It is interesting that while the number of enrollees decreased from 1992 through 1999, the demand for service has remained relatively stable in terms

of total visits. There is every reason to believe that the patient population will require increased care per case over the next several years.

In fact, the number of new enrollees and the increasing complexity of the care for this disease suggest that even more service will be rendered in the future both because of increasing numbers, as HIV infected persons live longer, and increasing need for follow-up due to life-long adherence to drug regimens.

When examining the data in tables 29-40 it is important to recognize that these clients do not necessarily have an AIDS defining condition. In fact, many are asymptomatic. These data have the distinct advantage of permitting health care providers and planners to assess HIV-infected individuals from an epidemiological, clinical and laboratory perspective without having to wait for the development of an AIDS defining condition.

Tables 29 and 30 indicate that sex between men has been the probable source of infection for 1,130 (53%) of the 2,121 clients who have been enrolled. Four hundred and twenty-eight (20%) of the clients have had their infection attributed to heterosexual contact. IDU alone has been the probable source of infection for 321 (15%) of those under care. One hundred and ninety-three (9%) of the clients have had their infection associated with sex between men in addition to IDU.

Table 31 indicates that the age distribution of those served in these clinics is about the same for both sexes with the exception of two age groups. Thirty-four percent of the female clients are 20-29 years old compared with 27% of the males. Sixty-seven percent of the males are 30-49 years old while the corresponding proportion for females is 59%.

Table 32 demonstrates that these clinics have attracted patients from throughout Southern California. Of those receiving care, 397 (19%) reside in counties other than San Bernardino. This observation suggests that the clinics are accessible and acceptable to a considerable number of non-San Bernardino County residents. However, it is also known from other sources that many San Bernardino County residents receive their HIV-related care in neighboring jurisdictions.

TABLE 29. Male HIV clinic clients by race/ethnicity and probable source of infection, San Bernardino County, March 29, 1990-December 31, 1999

Probable Source of Infection	Race/Ethnicity						Total	Row %
	Caucasian	Latino	African Am	Asian/Pac	Native Am	Other		
Sex between men	629	306	169	8	10	8	1,130	65%
Injection drug use	91	55	55	2	1	1	205	12%
Sex between men/IDU	127	33	27	1	4	1	193	11%
Heterosexual contact	42	76	61	4	1	2	186	11%
Transfusion	6	3	5	1	0	0	15	1%
Receipt of factor concentrate	1	2	0	1	0	0	4	<1%
Perinatal transmission	1	1	0	0	0	0	2	<1%
History not obtained/unknown	0	1	1	0	0	0	2	<1%
Total	897	477	318	17	16	12	1,737	
Column %	52%	27%	18%	1%	1%	1%		100%

TABLE 30. Female HIV clinic clients by race/ethnicity and probable source of infection, San Bernardino County, March 29, 1990-December 31, 1999

Probable Source of Infection	Race/Ethnicity						Total	Row %
	Caucasian	African Am	Latina	Asian/Pacific Is	Native Am	Other		
Heterosexual contact	81	104	55	1	1	0	242	63%
Injection drug use	60	31	25	0	0	0	116	30%
Transfusion	3	4	10	1	0	1	19	5%
Perinatal transmission	3	2	1	0	0	0	6	2%
Receipt of factor concentrate	1	0	0	0	0	0	1	<1%
Total	148	141	91	2	1	1	384	
Column %	39%	37%	24%	1%	<1%	<1%		100%

TABLE 31. HIV clinic clients by gender and age group on admission, San Bernardino County, March 29, 1990-December 31, 1999

Age	Gender				Total	Row %
	Male	Row %	Female	Row %		
0-9	2	<1%	4	1%	6	<1%
10-19	13	1%	10	3%	23	1%
20-29	472	27%	130	34%	602	28%
30-39	834	48%	169	44%	1,003	47%
40-49	330	19%	56	15%	386	18%
50-59	70	4%	14	4%	84	4%
60+	16	1%	1	<1%	17	1%
Total	1,737		384		2,121	
Column %	82%		18%			100%

TABLE 32. HIV clinic clients by gender and county of residence, San Bernardino County, March 29, 1990-December 31, 1999

County	Gender				Total	Row %
	Male	Row %	Female	Row %		
San Bernardino	1,390	80%	334	87%	1,724	81%
Riverside	207	12%	32	8%	239	11%
Los Angeles	112	6%	15	4%	127	6%
San Diego	5	<1%	0	0%	5	<1%
Kern	3	<1%	0	0%	3	<1%
Imperial	2	<1%	0	0%	2	<1%
Orange	2	<1%	0	0%	2	<1%
Alameda	1	<1%	0	0%	1	<1%
Contra Costa	1	<1%	0	0%	1	<1%
Sacramento	1	<1%	0	0%	1	<1%
San Francisco	1	<1%	0	0%	1	<1%
Out of State	12	1%	3	1%	15	1%
Total	1,737		384		2,121	
Column %	82%		18%			100%

TABLE 33. HIV clinic clients by gender and racial/ethnic distribution, San Bernardino County, March 29, 1990-December 31, 1999

Race/Ethnicity	Gender				Total	Row %
	Male	Row %	Female	Row %		
Caucasian	897	52%	148	39%	1,045	49%
Latino	477	27%	91	24%	568	27%
African American	318	18%	141	37%	459	22%
Asian/Pacific Islander	17	1%	2	<1%	19	1%
Native American	16	1%	1	<1%	17	1%
Other	12	1%	1	<1%	13	1%
Total	1,737		384		2,121	
Column %	82%		18%			100%

TABLE 34. HIV clinic clients by gender and CDC stage on admission, San Bernardino County, March 29, 1990-December 31, 1999

	Gender				Total	Row %
	Male	Row %	Female	Row %		
Asymptomatic, CD4 = 500	293	17%	94	25%	387	18%
Symptomatic/not AIDS, CD4 = 500	27	2%	13	3%	40	2%
AIDS, CD4 = 500	5	<1%	0	0%	5	<1%
Asymptomatic, CD4 = 200-499	355	20%	87	23%	442	21%
Symptomatic/not AIDS, CD4 = 200-499	130	7%	27	7%	157	7%
AIDS, CD4 = 200-499	80	5%	16	4%	96	5%
Asymptomatic, CD4 = 199	67	4%	19	5%	86	4%
AIDS, CD4 = 199	777	45%	127	33%	904	43%
Not applicable (< 13 years old)	3	<1%	1	0%	4	<1%
Total	1,737		384		2,121	
Column %	82%		18%			100%

TABLE 35. HIV clinic clients by gender and CD4 cell count on admission, San Bernardino County, March 29, 1990-December 31, 1999

CD4 Count	Gender				Total	Row %
	Male	Row %	Female	Row %		
= 200 cells/mm ³	791	46%	128	33%	919	43%
201-500 cells/mm ³	613	35%	151	39%	764	36%
>500 cells/mm ³	333	19%	105	27%	438	21%
Total	1,737		384		2,121	
Column %	82%		18%			100%

Table 33 indicates that 1,063 (50%) of the clients are African American, Latino, Asian/Pacific Islander or Native American. This distribution is similar to the proportions among AIDS cases affecting people of color within the community. In addition, female clients under care are more likely to be African American than are male patients.

Table 34 indicates that the males under care are more likely to present with more advanced stages of HIV disease than are females. This finding is most likely due to the males having been infected longer than their female counterparts. This may also reflect increased efforts to reach women at risk and offer counseling, testing and primary medical care.

Table 35 suggests that the majority of the patients under care have been infected for some time. Of those tested, 1,689 (80%) qualified for highly active antiretroviral therapy (HAART) on admission based on a CD4 cell count $\geq 500/\text{mm}^3$. It must be understood that levels of extracellular viral RNA are considered in conjunction with CD4 cell counts prior to the initiation of HAART. Further, 994 (47%) qualified for anti-*Pneumocystis* prophylaxis on admission as a result of CD4 cell counts $\geq 200/\text{mm}^3$. These data show that the males under care are over represented within the lowest range of CD4 cell counts on admission. This may be due to their having been infected longer than the females served in the clinics. It also suggests that the

AIDS Program is finding infected women before they reach advanced states of immunodeficiency. This is important in view of national concerns that HIV disease among women has been neglected.

Table 36 presents baseline measures of extracellular viral RNA in copies/mm³ beginning September 27, 1995. Current recommendations suggest that fewer than 50 copies/mm³ are indicative of successful HAART. Clients with 51-20,000 copies/mm³ are carefully evaluated for HAART. Clients with more than 20,000 copies/mm³ are immediate candidates for HAART. Further, clients whose symptoms are attributable to HIV are also considered as candidates for HAART. These data would indicate that at least 583 (52%) of the 1,111 clients provided with baseline testing between September 27, 1995 and December 31, 1999 were immediate candidates for HAART.

TABLE 36. HIV clinic clients by baseline number of copies of extracellular viral RNA/mm³, San Bernardino County, September 27, 1995-December 31, 1999

Copies of viral RNA	Clients	Row%
0-50	79	7%
51-20,000	449	40%
20,001-100,000	230	21%
100,001+	353	32%
Total	1,111	100%

The client's need for mental health counseling is determined jointly by a licensed mental health professional, the attending physician, and the patient. Table 37 shows that the females under care are more likely to require crisis intervention

or ongoing counseling on admission than are male patients. This speaks to the need to continue to provide on-site counseling which can satisfactorily address women's issues and concerns.

Table 38 shows that the most frequently reported source of referral for clinic patients is word of mouth (22%), which is followed by referrals from private physicians (20%), community AIDS service organizations (16%) and anonymous testing programs (15%). This would suggest that the clinics have a positive reputation among those living with HIV, the private medical community, as well as community based AIDS service organizations.

Table 39 shows that 1,579 (75%) of the clients were unemployed. Male clients under care are

more likely to be employed on a full time basis than are females. It is noteworthy that many of the employed clients eventually become medically unable to work and are forced to quit their jobs.

Table 40 presents the health insurance status for the clinic clients. It is not surprising that given the employment profile of the clients, 994 (47%) of the 2,121 have had no medical insurance. Females under care are more likely to be publicly insured than males. This may be explained by the fact that low income women with children generally qualify for Medi-Cal benefits regardless of the mother's health status. Six hundred and eighty two (61%) of the 1,127 clients who have had some type of health insurance have been covered by Medi-Cal.

TABLE 37. HIV clinic clients by gender and counseling need, San Bernardino County, March 29, 1990-December 31, 1999

Counseling Need	Gender					
	Male	Row %	Female	Row %	Total	Row %
Crisis intervention	849	49%	205	53%	1,054	50%
Ongoing counseling	159	9%	52	14%	211	10%
No immediate need	729	42%	127	33%	856	40%
Total	1,737		384		2,121	
Column %	82%		18%			100%

TABLE 38. HIV clinic clients by gender and source of referral, San Bernardino County, March 29, 1990-December 31, 1999

Source of Referral	Gender					
	Male	Row %]	Female	Row %	Total	Row %
Word of mouth	388	22%	76	20%	464	22%
Private physician	337	19%	89	23%	426	20%
Community AIDS service organizations	291	17%	51	13%	342	16%
Anonymous test site	257	15%	56	15%	313	15%
Department of Public Health	141	8%	26	7%	167	8%
Correctional facility	63	4%	12	3%	75	3%
Friend/family	49	3%	8	2%	57	3%
Other	47	3%	10	3%	57	3%
Other early intervention program	45	3%	11	3%	56	3%
Other HIV antibody testing program	35	2%	17	4%	52	2%
Advertisement	19	1%	7	2%	26	1%
Drug/alcohol treatment center	10	1%	9	2%	19	1%
Emergency room	14	1%	3	1%	17	1%
Private hospital	10	1%	4	1%	14	1%
Sex partner	21	1%	2	1%	23	1%
Clinical trial	3	<1%	1	<1%	4	<1%
Needle Sharing Partner	1	<1%	0	0%	1	<1%
Public assistance program	6	<1%	2	1%	8	<1%
Total	1,737		384		2,121	
Column %	823%		187%			100%

TABLE 39. HIV clinic clients by gender and employment status, San Bernardino County, March 29, 1990-December 31, 1999

Employment Status	Gender					
	Male	Row %	Female	Row %	Total	Row %
Full-time employment	327	19%	42	11%	369	17%
Part-time employment	128	7%	23	6%	151	7%
Unemployed	1,265	73%	314	82%	1,579	75%
Other	17	<1%	5	1%	22	1%
Total	1,737		384		2,121	
Column %	82%		18%			100%

TABLE 40. HIV clinic clients by gender and health insurance status, San Bernardino County, March 29, 1990-December 31, 1999

Health Insurance Status	Gender				Total	Row %
	Male	Row %	Female	Row %		
Medi-Cal	476	27%	206	54%	682	32%
Private insurance	212	12%	26	7%	238	11%
Medicare	161	9%	16	4%	177	8%
Other insurance (ie VA, CHAMPUS)	26	2%	4	1%	30	1%
None	862	50%	132	34%	994	47%
Total	1,737		384		2,121	
Column %	82%		18%			100%

AIDS Drug Assistance Program

In the fall of 1987, the Department of Public Health elected to participate in the California Department of Health Services, AIDS Drug Assistance Program (ADAP). Initially, only zidovudine was made available to low income

persons living with HIV. Since then, 111 other drugs and drug combinations have been added to the ADAP formulary (see table 41).

San Bernardino County has enrolled 1,757 persons into ADAP between 1987 and December 31, 1999, inclusive.

TABLE 41. AIDS Drug Assistance Program formulary and indications for use, California 1999

	Generic Name	Trade Name(s)	Date	Indications for Use
1	abacavir	Ziagen	Dec 1998	nucleoside analog for HIV
2	acyclovir	Zovirax	Apr 1994	herpes simplex virus (HSV)
3	albendazole	Albenza	Sep 1998	anti-helminthic
4	alpha interferon	Intron-A, Roferon-A	Mar 1995	Kaposi's sarcoma (KS), hepatitis B, hepatitis C
5	amphotericin b	Fungizone	Apr 1994	fungal infections
6	amprenavir	Agenerase	Apr 1999	protease inhibitor
7	amitriptyline hydrochloride	Elavil	Sep 1998	anti-depressant
8	amoxicillin trihydrate	Amoxill	Sep 1998	antibiotic
9	atorvastatin	Lipitor	Aug 1999	hypolipidemic
10	atovaquone	Mepron	Apr 1994	Pneumocystis carinii pneumonia (PCP)
11	azithromycin	Zithromax	Apr 1994	Mycobacterium avium complex (MAC) prophylaxis and treatment
12	bleomycin sulfate	Blenoxane	Mar 1995	lymphoma, advanced KS
13	bupropion hydrochloride	Zyban, Wellbutrin	Sep 1998	antidepressant & smoking cessation
14	cephalexin	Keflex	Sep 1998	antibiotic
15	cidofovir	Vistide	Apr 1997	Cytomegalovirus (CMV), HSV, genital warts
16	clarithromycin	Biaxin	Apr 1994	MAC prophylaxis and treatment, upper respiratory infections (URI)
17	clindamycin	Cleomycin	Nov 1991	PCP prophylaxis and treatment, pelvic inflammatory disease (PID), toxoplasmosis encephalitis
18	clofazamine	Lamprene	Apr 1994	MAC
19	clotrimazole	Lotrimin, Mycelex	Apr 1992	candidiasis
20	codeine phosphate		Sep 1998	pain control
21	codeine	Tylenol w/codeine	Sep 1998	pain control
22	codeine phosphate/aspirin	Empirin	Sep 1998	pain control
23	codeine sulfate	Oral generic	Sep 1998	pain control
24	cyclophosphamide	Cytosan	Mar 1995	neoplasms
25	dapsone	Avlosulfon	Nov 1991	PCP prophylaxis
26	delavirdine	Rescriptor	Jul 1997	non-nucleoside reverse transcriptase inhibitor for HIV
27	desipramine hydrochloride	Generic	Sep 1998	anti-depressant
28	dexamethasone	Decadron, Hexadrol	Mar 1995	anti-inflammatory
29	dicloxacillin sodium	Diclox	Sep 1998	antibiotic
30	didanosine	ddi, Videx	Nov 1991	nucleoside analog for HIV
31	diphenoxylate hydrochloride/atropine sulfate	Lomotil	Sep 1998	diarrhea
32	doxorubicin	Ariamycin	Mar 1995	KS and lymphoma
33	doxycycline hyclate	Oral generic	Sep 1998	antibiotic
34	dronabinol	Marinol	Mar 1995	nausea, vomiting, anorexia
35	efavirenz	Sustiva	Dec 1998	non-nucleoside reverse trans inhibitor
36	epoetin alfa	Epogen, Procrit	Mar 1995	red blood cell anemia
37	erythromycin base	Oral generic	Sep 1998	antibiotic
38	erythromycin ethylsuccinate	Generic	Sep 1998	antibiotic
39	ethambutol	Myambutol	Apr 1994	Mycobacterium tuberculosis (TB), MAC
40	fenoprofen calcium	Nalfon	Sep 1998	pain control
41	fentanyl patch	Duragesic	Sep 1998	pain control
42	filgrastim	Neupogen	Mar 1995	white blood cell anemia
43	fluconazole	Diflucan	Apr 1992	fungal infections
44	flucytosine	5FC, Ancobon	Apr 1994	fungal infections
45	fluoxetine hydrochloride	Prozac	Sep 1998	anti-depressant

TABLE 41. Continued

46	foscarnet	Foscavir	Apr 1994	CMV retinitis, HSV
47	ganciclovir	Cytovene	Nov 1991	CMV retinitis, HSV
48	gemfibrozil	Lopid	Aug 1999	hypolipidemic
49	hepatitis B virus vaccine	Energix, Recombivax	Sep 1998	prevention of hepatitis B infection
50	hydrocodone	Generic	Sep 1998	pain control
51	hydrocodone hydrochloride	Oral generic	Sep 1998	pain control
52	hydroxyurea	Hydrea	Apr 1998	anti-neoplastic, and adjuvant treatment for HIV
53	ibuprofen-prescription strength	Motrin	Sep 1998	pain control
54	ibuprofen/hydrocodone	Vicoprofen	Sep 1998	pain control
55	indinavir	Crixivan	Jul 1996	protease inhibitor for HIV
56	indomethacin	Indocin	Sep 1998	anti-inflammatory
57	itraconazole	Sporanox	Mar 1995	fungal infections
58	ketoconazole	Nizoral	Apr 1992	fungal infections
59	ketoprofen	Orudis	Sep 1998	anti-inflammatory
60	lamivudine	3tc, Epivir	Apr 1996	nucleoside analog for HIV
61	lamivudine/zidovudine	Combivir	Oct 1997	nucleoside analog for HIV
62	leucovorin calcium	Leucovorin	Mar 1995	white blood cell anemia
63	levorphenol tartrate	Levodromoran	Sep 1998	pain control
64	liposomal daunorubicin	DaunoXome	Jul 1997	KS
65	loperamide hydrochloride	Imodium	Sep 1998	diarrhea
66	megestrol acetate	Megace	Mar 1995	wasting syndrome, anorexia
67	methadone hydrochloride	Oral generic	Sep 1998	pain control
68	metronidazole	Flagyl	Sep 1998	antibiotic
69	methotrexate	Reumatrex, Folex	Mar 1995	neoplasms
70	minocycline hydrochloride	Oral generic	Sep 1998	antibiotic
71	morphine sulfate	Oral generic	Sep 1998	pain control
72	nandrolone decanoate	Decadurobovin	Sep 1998	HIV wasting
73	nandrolone phenpropionate		Sep 1998	HIV wasting
74	naproxen	Naprosyn	Sep 1998	pain control
75	nefazodone hydrochloride	Serzone	Sep 1998	anti-depressant
76	nelfinavir	Viracept	May 1997	protease inhibitor for HIV
77	neomycin sulfate	Oral generic	Sep 1998	topical antibiotic
78	nevirapine	Viramune	Apr 1997	non-nucleoside reverse transcriptase inhibitor for HIV
79	nortriptyline hydrochloride	Pamelor	Sep 1998	anti-depressant
80	nystatin	Mycostatin	Nov 1991	fungal infections
81	opium, tincture of	Paragoric	Sep 1998	diarrhea
82	oxandrolone	Oxandrin	Sep 1998	HIV wasting
83	oxycodone	Oral generic	Sep 1998	pain control
84	oxycodone acetaminophen	Oral generic	Sep 1998	pain control
85	oxycodone/aspirin	Oral generic	Sep 1998	pain control
86	paclitaxel	Taxol	Sep 1998	anti-neoplastic (KS)
87	paromomycin	Humatin	Apr 1994	cryptosporidiosis
88	pentamidine isethionate	NebuPent, Pentam	Mar 1989	PCP prophylaxis and treatment
89	paroxetine hydrochloride	Paxil	Sep 1998	anti-depressant
90	penicillin V potassium	Oral generic	Sep 1998	antibiotic
91	pneumococcal vaccine	Pneumovax	Sep 1998	pneumococcus protection
92	pravastatin	Pravachol	Aug 1999	hypolipidemic
93	prednisone	DeltaSone, Orasone	Mar 1995	anti-inflammatory
94	pyrimethamine	Daraprim	Nov 1991	toxoplasmosis
95	rifabutin	Mycobutin	Apr 1994	MAC prophylaxis and treatment
96	ritonavir	Norvir	Jul 1996	protease inhibitor for HIV
97	saquinavir mesylate	Invirase, Fortovase	Jul 1996	protease inhibitor for HIV
98	sertraline	Zoloft	Sep 1998	antidepressant
99	simvastatin	Zocor	Aug 1999	hypolipidemic
100	somatropin	Serostim	Oct 1999	human growth hormone
101	stavudine	d4t, Zerit	Mar 1995	nucleoside analog for HIV
102	sulfadiazine	Microsulton	Nov 1991	urinary tract infections (UTI), chancroid, trachoma
103	sulfamethoxazole-trimethoprim	Bactrim DS, Septra	Nov 1991	PCP prophylaxis and treatment
104	sulindac	Clinoral	Sep 1998	pain control
105	testosterone cypionate	Virilon	Sep 1998	HIV wasting
106	testosterone enanthate	Delatestryl	Sep 1998	HIV wasting
107	testosterone propionate		Sep 1998	HIV wasting
108	tetracycline hydrochloride	Oral generic	Sep 1998	antibiotic
109	trazodone hydrochloride	Desyrel	Sep 1998	anti-depressant
110	trimethoprim	Proloprim, Trimplex	Mar 1995	UTI
111	trimetrexate glucuronate	NeuTrexin	Mar 1995	PCP
112	valacyclovir	Valtrex	Sep 1998	HSV infection
113	vancomycin hydrochloride	Oral generic	Sep 1998	antibiotic
114	venlafaxine hydrochloride	Effexor	Sep 1998	anti-depressant
115	vinblastine sulfate	Velban	Mar 1995	neoplasms
116	vincristine sulfate	Oncovin	Mar 1995	neoplasms
117	zalcitabine	ddc, HIVID	Dec 1993	nucleoside analog for HIV
118	zidovudine	ZDV, AZT, Retrovir	Oct 1987	nucleoside analog for HIV

Table 42 indicates that enrollment in ADAP has remained relatively stable from 1990 to the present. The dramatic change between 1989 and 1990 corresponds with the development and implementation of the San Bernardino County HIV clinics. The decline in ADAP enrollments in 1991 corresponds to a decline in enrollments in the HIV clinic.

TABLE 42. ADAP clients by gender and year of enrollment, San Bernardino County, 1987-December 31, 1999

Year	Male	Female	Total	Row %
1987	2	0	2	<1%
1988	64	5	69	4%
1989	81	7	88	5%
1990	157	16	173	10%
1991	91	12	103	6%
1992	150	24	174	10%
1993	181	27	208	12%
1994	117	19	136	8%
1995	130	10	140	8%
1996	154	18	172	10%
1997	142	37	179	10%
1998	142	31	173	10%
1999	116	24	140	8%
Total	1,527	230	1,757	100%

Table 43 suggests greater use of ADAP among younger people living with HIV when compared with the age distribution of persons diagnosed with AIDS (see table 5). Seventy-two percent (n=1,276) of the 1,757 ADAP clients were 20-39 years of age on enrollment while 64% (n=1,413) of the 2,236 community AIDS cases have been 20-39 years old at the time of diagnosis. The gender distribution of ADAP enrollees is comparable to that for community AIDS cases (see table 13).

TABLE 43. ADAP clients by gender and age on enrollment, San Bernardino County, 1987-December 31, 1999

Year	Male	Female	Total	Row %
0-9	1	2	3	<1%
10-19	12	3	15	1%
20-29	362	65	427	24%
30-39	740	109	849	48%
40-49	312	35	347	20%
50-59	77	14	91	5%
60+	23	2	25	1%
Total	1,527	230	1,757	
Col%	87%	13%		100%

The data presented in table 44 indicate that those enrolled in ADAP are representative of the community AIDS cases in terms of race/ethnicity with the exception of African Americans. African Americans constitute 20% of the community AIDS cases and 16% of ADAP clients. The under

utilization of ADAP by persons of African descent has been reported elsewhere in the state.

TABLE 44. ADAP clients by gender and race/ethnicity, San Bernardino County 1987-December 31, 1999

	Male	Female	Total	Row %
Caucasian	828	89	917	52%
Latino	415	65	480	27%
African American	221	67	288	16%
Native American	12	1	13	1%
Asian/Pacific Islander	10	0	10	1%
Other	8	1	9	1%
Unknown	33	7	40	2%
Total	1,527	230	1,757	
Col %	87%	13%		100%

Table 45 indicates that the local ADAP has served clients from throughout Southern California. This may be due to the fact that San Bernardino County made medications available through the mail between 1987 and 1997. The immense size of the county and the reluctance of many pharmacies to participate in ADAP made it necessary to develop an alternative service delivery system. The United States Postal Service proved to be an acceptable alternative.

TABLE 45 ADAP clients by gender and county of residence, San Bernardino County, 1987-December 31, 1999

	Male	Female	Total	Row %
San Bernardino	1,245	197	1,442	82%
Los Angeles	143	18	161	9%
Riverside	117	12	129	7%
San Diego	6	1	7	<1%
Sacramento	5	1	6	<1%
Orange	5	0	5	<1%
Imperial	2	0	2	<1%
Kern	1	0	1	<1%
El Dorado	0	1	1	<1%
Sonoma	1	0	1	<1%
Out of state	2	0	2	<1%
Total	1,527	230	1,757	
Col%	87%	13%		100%

In 1997, the California Department of Health Services, Office of AIDS centralized ADAP through a pharmacy benefits management service provider with an existing network of more than 1,500 pharmacies statewide. This provided an immediate improvement in access for persons living with HIV. Since then, the provider has continued to enroll eligible pharmacies into ADAP. Currently, there are more than 2,600 participating pharmacies in California. In addition to increasing access, the centralization of administration has also improved the efficiency of ADAP.

Anonymous HIV Testing Program

The San Bernardino County Department of Public Health established an anonymous HIV antibody counseling and testing program in 1985. Anonymous testing is offered in the cities of San Bernardino, Chino, Barstow and Hesperia. Service includes an explanation of the test procedure and meaning of the results; recording of demographic variables and risk assessment; provision of information on HIV transmission, prevention, and strategies for behavior change; development of a risk reduction plan; collection of a laboratory specimen; and distribution of condoms and educational materials. All who test positive are offered medical care and support services through the AIDS Program's HIV clinics or they are encouraged to seek care through the private medical community.

Between January 1, 1999 and December 31, 1999, 2,758 specimens were tested anonymously. Of those, 45 (1.6%) were found to have serologic evidence of HIV infection. It is important to recognize that those individuals found to have positive test results represent HIV infections and not necessarily cases of AIDS. The total number of specimens tested anonymously by the AIDS Program since June 1, 1985 is 57,721 (see table 47).

The data in table 46 indicate that of those presenting for anonymous testing between April 1, 1988 and December 31, 1999, 62% were Caucasian, 23% were Latino, 10% were African American, 3% were Asian/Pacific Islander, 1% were Native American and 2% were classified as "other or unknown". It is important to acknowledge that these data do not necessarily reflect unduplicated clients. The prevalence of HIV infection among specimens submitted by

African Americans tested was 2.0 times that for Caucasians and 1.5 times that for Latinos. These data support the need for increased outreach and prevention education targeted toward African Americans who engage in behaviors that place them at increased risk for HIV infection.

TABLE 46. Anonymous HIV antibody test results by race/ethnicity, San Bernardino County, April 1, 1988-December 31, 1999

Race/Ethnicity	Positive	Tested	Rate/100
African American	125	5,281	2.4
Latino	187	11,629	1.6
Caucasian	396	31,867	1.2
Native American	5	368	1.4
Asian/Pacific Is.	10	1,302	0.8
Other/Unknown	25	1,199	2.1
Total	748	51,646	1.4

Table 47 indicates that sex between men and/or IDU were associated with 817 (75%) of the 1,084 infections identified during the entire period of this program. Since histories are obtained at the time of initial testing, these data might underestimate the actual prevalence of these risk behaviors. However, these data do support the continued need for effective outreach to encourage testing for all persons who engage in behaviors which place them at increased risk for HIV infection.

Figure 19 indicates that the seroprevalence among those tested anonymously who reported sex between men as their only risk factor declined gradually from 25.5% in 1985 to 8.9% in 1989.

Between 1990 and 1996, inclusive, the seroprevalence declined from 11% to 3.3%. The annual seroprevalence increased to 5.1% in 1997, and decreased to 4.9% in 1999. This rate of infection speaks to the continued need to provide prevention education to men who have sex with men.

TABLE 47. Anonymous HIV antibody test results by risk factor, San Bernardino County, June 1, 1985-December 31, 1999

Risk Factor	# Positive	# Tested	Rate/100
Receipt of factor concentrate	7	14	50.0
Sex between men/IDU	72	453	15.9
Sex between men	658	7,219	9.1
Injection drug use	87	4,044	2.2
Prostitute	1	110	0.9
Sex partner of a high risk individual	138	17,370	0.8
Transfusion	12	1,514	0.8
Heterosexual with multiple partners	60	19,633	0.3
Occupational exposure	0	632	0.0
No risk stated	34	5,381	0.6
Unknown	15	1,351	1.1
Total	1,084	57,721	1.9

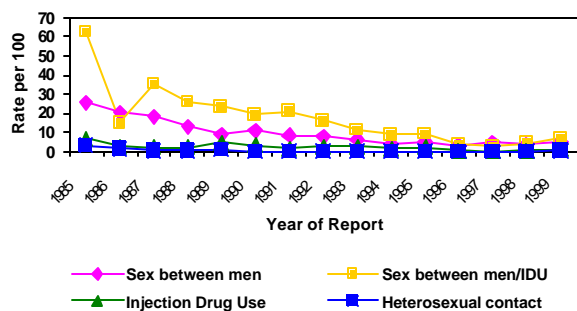


FIGURE 19. Annual HIV seroprevalence by selected risk factors among those presenting to anonymous test sites, San Bernardino County, June 1, 1985-December 31, 1999

The rate of HIV infection among IDUs tested declined from 7.1% in 1985 to 0.0% in 1997. In 1999, the rate among IDUs increased to 0.9% (n=2).

The seroprevalence rate among those who reported sex between men in addition to IDU as risk factors declined from 62.5% in 1985 to 2.5% in 1997. In 1999, the annual seroprevalence among men who have sex with men in addition to IDU increased to 7.1%. It is important to note that the sample size is rather small and, as a result, the seroprevalence is subject to considerable variability when infections are identified.

The seroprevalence among those who reported heterosexual contact as their sole risk factor has remained remarkably low (less than 1% between 1987 and December 31, 1999, inclusive).

It is essential to recognize that those presenting for anonymous testing are highly self-selected and have some perception of their personal risk for HIV infection.

Figure 20 indicates that the annual seroprevalence among Caucasians tested anonymously remained stable between 1988 and 1990, inclusive, with an average annual rate of 2.8%. From 1991 to 1994, the seroprevalence declined from 1.7% to 0.5%. The rates for 1995, 1996, 1997, 1998 and 1999 were low (0.8%, 1.0%, 0.6%, 0.6%, and 1.0% respectively).

The seroprevalence among African Americans tested anonymously increased from 2.3% in 1988 to 6.8% in 1990. Between 1990 and 1993,

inclusive, the seroprevalence declined from 6.8% to 1.4%. This rate remained relatively stable from 1993 to 1996. In 1997, the rate increased to 2.6%, declined to 0.8% in 1998 and increased to 2.4% in 1999.

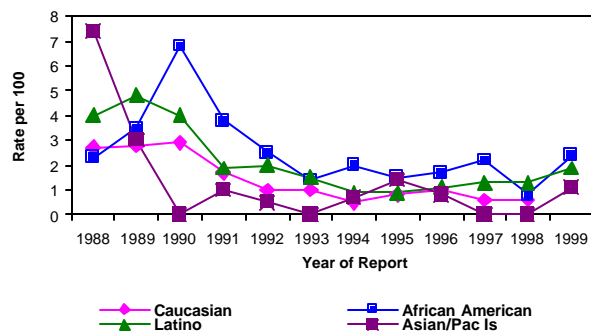


FIGURE 20. Annual HIV seroprevalence by selected racial/ethnic groups among those presenting to anonymous test sites, San Bernardino County, April 1988-December 31, 1999

The seroprevalence among Latinos tested anonymously peaked at 4.8% in 1989. This was followed by a gradual decline to 0.9% in 1995. Between 1996 and December 31, 1999, the seroprevalence among Latinos remained stable (1.1%, 1.3%, 1.3%, and 1.9% respectively).

The seroprevalence among Asian/Pacific Islanders tested anonymously declined from 7.4% in 1988 to 0.0% in 1990. It is essential to recognize that during that three year interval, only 101 persons tested self-identified as Asian/Pacific Islander. The average annual seroprevalence for Asian/Pacific Islanders between 1991 and 1997, inclusive, was 0.6%. In 1998, no new infections were identified among Asian/Pacific Islanders. The actual number of infections identified among Asian/Pacific Islanders has yet to exceed two per year. In 1999 the seroprevalence increased to 1.1%.

Figure 21 shows that there was a dramatic decline in seroprevalence among males between 1985 (18.6%) and 1987 (6.2%). This is probably due to the fact that many of the men with the greatest risk for HIV disease presented for testing in 1985 and 1986. It is noteworthy that the HIV antibody test became widely available in the middle of 1985. Between 1988 and 1990, inclusive, the average annual seroprevalence among males was 4.8%. Between 1991 and June 30, 1997, inclusive, the

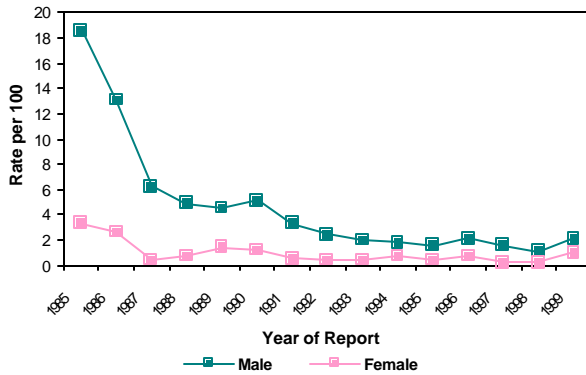


FIGURE 21. Annual HIV seroprevalence by gender among those presenting to anonymous test sites, San Bernardino County, June 1, 1985-December 31, 1999

average annual seroprevalence among males was 1.7%. Between July 1, 1997 and December 31, 1998 the average annual seroprevalence declined to 1.1% and increased to 2.1% in 1999. While this is interesting, it does not provide the basis for optimism without an assessment of the actual number of infections that were identified. For example, between 1985 and 1987, inclusive, the average annual number of infections identified among males was 93.3 (standard deviation=43.7). Between 1990 and 1993, inclusive, the average annual number of infections identified among men was 84.0 (standard deviation=17.1). While the variability has declined, there has been a relatively stable average annual number of infections identified among men. From 1996 and through 1999, the number of infections among men who were tested anonymously were 29, 29, 17 and 31 respectively.

Between 1985 and 1987, inclusive, the seroprevalence among females declined from 3.3% to 0.4%. Between 1988 and June 30, 1997, inclusive, the average annual seroprevalence among women was 0.7%. Between July 1, 1997 and December 31, 1999, the average annual seroprevalence among women declined to 0.5%. The average annual number of infections identified among women between 1985 and 1987, inclusive, was 5.3 (standard deviation=3.5). The average annual number of infections identified among women between 1990 and 1993, inclusive, was 13.8 (standard deviation=1.7). From 1996 through 1999, the number of infections among women who were tested anonymously were 7, 6, 3, and 13 respectively.

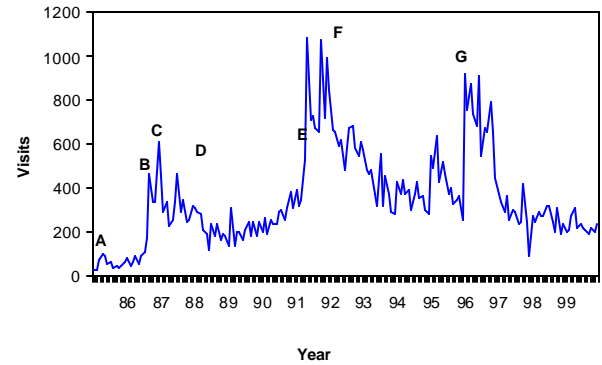


FIGURE 22. Anonymous HIV antibody tests by month, San Bernardino County, June 1, 1985-December 31, 1999

A number of events are believed to have influenced people's decision to seek anonymous HIV antibody testing. Figure 22 shows increased demand for testing when (A) Rock Hudson died in October 1985; (B) Liberace died in February 1987; (C) Paul Gann announced his transfusion associated infection in June 1987; (D) federal officials announced an aggressive media campaign on AIDS prevention in January 1988; (E) October was declared as AIDS awareness month in October 1991; (F) Magic Johnson disclosed his HIV antibody status in November 1991; and (G) advent of combination therapy in 1996.

Confidential HIV Testing Programs

In 1985, the San Bernardino County Department of Public Health established a confidential HIV antibody testing program within its sexually transmitted disease (STD) clinics. Confidential testing is offered in the cities of San Bernardino, Chino, Barstow and Hesperia. Service includes an explanation of the test procedure and interpretation of the results; recording of demographic variables and risk assessment; provision of information on HIV transmission, prevention, and strategies for behavior change; development of a risk reduction plan; collection of a laboratory specimen; and distribution of condoms and educational materials. All individuals who test positive are offered medical evaluation and support services through the AIDS Program's HIV clinics or they are encouraged to seek care through the private medical community.

Between January 1, 1999 and December 31, 1999, 4,314 specimens were tested confidentially. Of

those, sixteen (0.4%) were found to have serologic evidence of HIV infection. It is important to recognize that those individuals found to have positive test results represent HIV infections and not necessarily cases of AIDS. The total number tested by the AIDS Program since March 1989 is 51,979.

Table 48 shows that the racial/ethnic distribution of those tested confidentially is 36% Caucasian, 35% Latino, 23% African American, 3% Asian/Pacific Islander, <1% Native American and 3% were classified as "other or unknown". The over representation among people of color when compared with the anonymous testing program reflects current utilization patterns in the Sexually Transmitted Disease (STD) clinics offered by the Department of Public Health. It is important to recognize that those presenting to the STD Clinic are not expected to be representative of the general population.

TABLE 48. Confidential HIV antibody test results by race/ethnicity, San Bernardino County, March 1, 1989–December 31, 1999

Race/Ethnicity	Positive	Tested	Rate/100
Native American	1	218	0.5
African American	63	11,794	0.5
Caucasian	78	18,700	0.4
Latino	75	18,286	0.4
Asian/Pacific Islander	1	1,462	0.1
Other/Unknown	5	1,530	0.3
Total	223	51,990	0.4

Table 49 indicates that sex between men, IDU alone, or sex between men in addition to IDU were associated with 135 (62%) of the 223 infections identified during the entire period of this program. It is interesting that 27 (12%) of the infections were associated with no identifiable risk factor according to the initial interview. This might reflect some reluctance to acknowledge risk behaviors among those presenting for confidential

testing. In 1999, the seroprevalence for the anonymous testing program was 3.4 times that of the confidential testing program. While this difference could suggest some selection bias with respect to testing format based upon perceived risk for HIV infection and ensuring the need for anonymity, it probably indicates that those seeking treatment for STDs do not share the same risk for HIV as those presenting for anonymous testing. This latter hypothesis is supported by the fact that the seroprevalence rates for men who have sex with men and injection drug users are similar regardless of the testing format.

The San Bernardino Department of Behavioral Health, Office of Alcohol and Drug Programs established a confidential HIV antibody testing program in 1989. Confidential testing is offered in methadone treatment clinics in San Bernardino and Montclair and other drug treatment facilities throughout the county. Service includes an explanation of the test procedure and meaning of the results; recording of demographic variables and risk assessment; the provision of information on HIV transmission, prevention, and strategies for behavior change; development of a risk reduction plan; collection of a laboratory specimen; and distribution of condoms and educational materials.

One thousand two hundred seventeen clients were tested confidentially in methadone and other drug treatment clinics between January 1, 1999 and December 31, 1999. Of those, five (0.4%) were found to have serologic evidence of HIV infection. The total number tested by the Office of Alcohol and Drug Programs since September 1989 is 12,581.

TABLE 49. Confidential HIV antibody test results by risk factor, San Bernardino County, March 1, 1989–December 31, 1999*

Risk Factor	# Positive	# Tested	Rate/100
Sex between men/IDU	10	104	9.6
Sex between men	88	1,266	7.0
Parent at risk	1	36	2.8
Injection drug use	38	2,668	1.4
Transfusion	3	1,052	0.3
Sex partner of a high risk individual	26	13,783	0.2
Heterosexual with multiple partners	30	21,357	0.1
Occupational exposure	0	242	0.0
Prostitute	0	93	0.0
Receipt of factor concentrate	0	5	0.0
No risk stated	13	6,887	0.2
Unknown	14	4,497	0.3
Total	223	51,990	0.4

*A data collection system similar to that of the anonymous HIV testing program was implemented on March 1, 1989. Previously, confidential HIV testing was offered in San Bernardino County but the data describing same are not available in the current form.

TABLE 50. Confidential HIV antibody test results by race/ethnicity, San Bernardino County drug treatment centers, March 1, 1989-December 31, 1999

Race/Ethnicity	Positive	Tested	Rate/100
Asian/Pacific Islander	1	50	2.0
African American	28	1,606	1.7
Latino	20	2,867	0.7
Native American	1	128	0.8
Caucasian	39	7,601	0.5
Other/Unknown	4	329	1.2
Total	93	12,581	0.7

The data in table 50 indicate that of those enrolled in methadone and other drug treatment programs who consented to be tested confidentially, 60% were Caucasian, 23% were Latino, 13% were African American, 1% were Native American, <1% were Asian/Pacific Islander and 3% were classified as "other or unknown". It must be recognized that persons enrolled in methadone maintenance, detoxification, and other drug treatment programs are not expected to be representative of the general population, nor are they necessarily representative of the total population of IDUs or those with significant non-IDU problems.

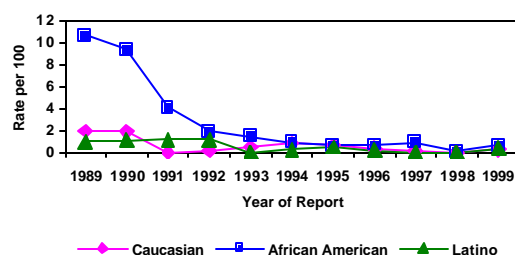
Table 51 indicates that among those tested confidentially in drug treatment centers during the

entire period of this program, 78 (84%) of the 93 infections identified were associated with injection drug use, sex between men or both.

Figure 23 indicates relatively low rates of infection among Caucasians and Latinos enrolled in methadone and other drug treatment programs when compared with African Americans. It is recognized that this population is highly self-selected and that the annual number tested is relatively small (0=1,144). The decline in seroprevalence in 1991 is probably due to the expansion of service to those enrolled in treatment for non-IDU. While non-IDU can clearly compromise one's judgement with regard to practicing safer sex, this behavior is not comparable to the level of risk for HIV associated with injection drug use. Regardless, the seroprevalence rate (0.7%) among those enrolled in drug treatment programs when compared with estimates for those of the general population (0.4%-0.6%) supports the need for effective outreach and referral for all of those enrolled in methadone and other drug treatment programs.

TABLE 51. Confidential HIV antibody test results by risk factor, San Bernardino County drug treatment centers, March 1, 1989-December 31, 1999

Risk Factor	# Positive	# Tested	Rate/100
Sex between men/IDU	10	182	5.5
Sex between men	7	235	3.0
Injection drug use	61	5,627	1.1
Heterosexual with multiple partners	4	1,417	0.3
Prostitute	2	999	0.2
Sex partner of a high risk individual	5	3,350	0.1
Occupational exposure	0	64	0.0
Parent at risk	0	2	0.0
Transfusion	0	222	0.0
No risk stated	2	103	1.9
Unknown	2	380	0.5
Total	93	12,581	0.7

**FIGURE 23. Annual HIV seroprevalence by selected racial/ethnic groups among those presenting to confidential test sites, San Bernardino County drug treatment centers, September 1, 1989-December 31, 1999**

Blinded HIV Testing Programs Survey of County Clinic Clients

In January 1987, the AIDS Program initiated a blinded seroprevalence study to measure rates and monitor trends of HIV infection among those who attended public health clinics or were incarcerated in San Bernardino County jails but who elected not to be tested anonymously or confidentially. Since no written or informed consent was obtained to test for antibodies to HIV, specimens collected for purposes of this study were stripped of identifiers with the exception of age, gender and the clinic or facility from which the specimen

was submitted. Between January 1, 1987 and March 31, 1991, inclusive, 56,734 specimens were collected. Four hundred and forty-two (0.8%) were reported as positive.

Table 52 indicates that 425 (96%) of the 442 infections identified in this study were submitted from the STD Clinic and detention centers. From these data, it would seem important that patients presenting for evaluation for STDs and those incarcerated in county facilities be encouraged to test for HIV either anonymously or confidentially. It is noteworthy that current laws prohibit anonymous testing in jails or prisons.

TABLE 52. HIV antibody test results by clinic, blinded specimens, San Bernardino County, January 1, 1987-March 31, 1991

Clinic	Positive	Tested	Rate/100
STD	258	24,393	1.1
Detention centers	167	20,202	0.8
Premarital testing	7	4,288	0.2
Women's Health	9	7,446	0.1
Other	1	405	0.2
Total	442	56,734	0.8

Figure 24 shows that the seroprevalence rate among males tested blindly remained remarkably stable between January 1987 and December 1990, inclusive (mean=1.1%, standard deviation=0.2%). The average annual seroprevalence among females tested blindly was lower (mean=0.4%, standard deviation=0.1%) and showed less variability than that for males. These data are interesting in that the rate of infection among males exceeds that among females by a factor of only 2.8 yet the male to female ratio of community AIDS cases is 5.7:1. These data are important in that they suggest that many persons utilizing STD clinic services do not perceive themselves to be at risk for HIV or are unfamiliar with the benefits of testing and early medical intervention. However, since the majority of infections were identified from two sources, the trends in seroprevalence by gender were essentially flat, resources for testing were limited and there was no method by which to identify and refer the infected individuals identified in this manner for medical care, this blinded study was discontinued effective March 31, 1991.

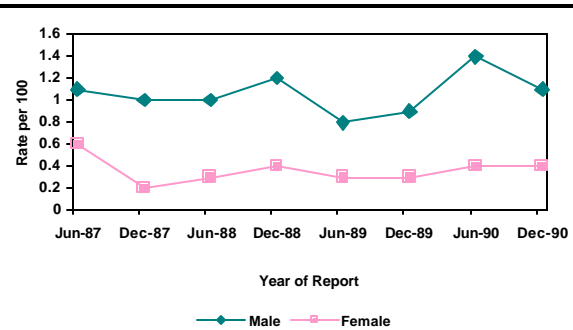


FIGURE 24. HIV seroprevalence by gender by six month interval, blinded specimens, San Bernardino County, January 1, 1987-1990

Survey of Childbearing Women

In 1988, the California Department of Health Services, Office of AIDS implemented a blind seroprevalence study among neonates. The purpose of this study was to provide an estimate of the prevalence of HIV infection among childbearing women in California. Specimens were collected from neonates born in hospitals during the third quarter of each calendar year.

TABLE 53. HIV antibody test results, survey of childbearing women, San Bernardino County, 1988-1995

Year	Positive	Tested	Rate/10,000
1988	2	6,991	2.9
1989	3	7,511	4.0
1990	3	7,993	3.8
1991	5	8,329	6.0
1992	2	8,112	2.5
1993	4	8,118	4.9
1994	6	7,603	7.9
1995	5	7,582	6.6
Total	30	62,239	4.8

The specimens were stripped of identifiers other than the mother's age and race/ethnicity and then tested for antibodies to HIV. The data presented in table 53 indicate that very few infants in San Bernardino County were born to HIV-infected women. It is important to recognize that approximately 25% of children born to mothers with serologic evidence of HIV infection actually have the infection. The remaining 75% represent children with maternal HIV antibodies only. In 1995, 15 counties within California identified between 1 and 40 maternal infections. Among these 15 counties, San Bernardino County had the eighth lowest seroprevalence (0.7%).

HIV Screening Programs

Blood Bank of San Bernardino and Riverside Counties

Table 54 shows that the seroprevalence among blood donors is very low. All HIV-infected people identified in this screening program did not self-exclude from donation on the basis of behaviors known to place them at increased risk for HIV. All 89 infections have been subsequently associated with well recognized risk behaviors. Since many of the units collected represent repeat donors, this screening program offers an excellent form of sentinel surveillance to identify new or unusual routes of transmission. To date, none have been identified.

TABLE 54. HIV antibody screening program, Blood Bank of San Bernardino and Riverside Counties, June 1, 1985-December 31, 1999

Year	Positive	Tested	Rate/10,000
1985	5	35,998	1.4
1986	10	67,591	1.5
1987	10	74,720	1.3
1988	12	75,701	1.6
1989	5	81,168	0.6
1990	10	77,289	1.3
1991	9	82,645	1.1
1992	7	84,145	0.8
1993	4	78,466	0.5
1994	1	79,108	0.1
1995	1	78,744	0.1
1996	5	81,298	0.6
1997	1	82,467	0.1
1998	4	82,516	0.5
1999	5	91,352	0.5
Total	89	1,153,208	0.8

Military Recruits

The United States Department of Defense began routinely testing military recruits in 1985. The data in table 55 show very low annual seroprevalence rates among recruits from the Riverside-San Bernardino standard metropolitan statistical area (SMSA). The cumulative seroprevalence for this group is substantially lower than those of the anonymous, confidential, and blinded programs conducted by the Department of Public Health. Nevertheless, the Riverside-San Bernardino Counties SMSA ranks 5th highest among 14 SMSAs surveyed within California in 1995.

TABLE 55. Military recruit HIV antibody screening program, United States Department of Defense, Riverside-San Bernardino Standard Metropolitan Statistical Area, 1985-1995

Year	Positive	Tested	Rate/1,000
1985	1	917	1.1
1986	4	3,891	1.0
1987	3	3,736	0.8
1988	3	3,897	0.8
1989	6	4,202	1.4
1990	0	3,562	0.0
1991	2	3,493	0.6
1992	2	3,249	0.1
1993	2	3,386	0.1
1994	0	3,509	0.0
1995	3	3,811	0.1
Total	26	37,653	0.7

Comparison of Testing/Screening Programs

Tables 56 and 57 were prepared to evaluate HIV antibody test results by program and study population using a standard sample (n=10,000) as the denominator. Table 56 indicates that the rate of infection is highest among those presenting to the Department of Public Health for anonymous testing and lowest among those presenting to the Blood Bank of San Bernardino/Riverside Counties.

Table 57 stratifies the test results by study population and indicates that those with the highest risk are recipients of factor concentrate, men who have sex with men and men who have sex with men in addition to IDU who present to the Department of Public Health for anonymous or confidential testing. The second tier of risk includes men who have sex with men and men who have sex with men in addition to IDU who present to the Office of Alcohol and Drug Programs and to the Department of Public Health for anonymous or confidential testing. The third stratum includes persons whose only acknowledged risk is IDU and present to the Department of Public Health. The fourth tier includes persons who only acknowledged risk is IDU and present to the office of Alcohol and Drugs, STD Clinic patients and the incarcerated who were tested in a blinded format and sex partners of high risk individuals who present to the Department of Public Health for anonymous testing.

TABLE 56. HIV antibody test results by program and interval of study, San Bernardino County, 1985-1999

Testing Program	Interval of Study	# Positive	# Tested	Rate/10,000
Anonymous - Public Health	Jun 1, 1985 – Dec 31, 1999	1,084	57,721	187.8
Blinded - Public Health	Jan 1, 1987 - Mar 31, 1999	442	57,225	77.2
Confidential – Office of Alcohol and Drug Programs	Mar 1, 1989 – Dec 31, 1999	93	12,541	74.2
Confidential – Public Health	Mar 1, 1989 – Dec 31, 1999	222	51,866	42.8
Military Recruits – US Dept of Defense	1985-1995	26	37,653	6.9
Childbearing Women - CA Dept of Health Services	1988-1995	30	62,239	4.8
Blood Bank - San Bernardino/Riverside Counties	Jun 1, 1985 - Dec 31, 1999	89	1,153,208	0.8

TABLE 57. HIV antibody test results by program and study population, San Bernardino County, 1985-December 31, 1999

Testing Program	Population	# Positive	# Tested	Rate/10,000
Anonymous - Public Health	Receipt of factor concentrate	7	14	5,000.0
Anonymous - Public Health	Sex between men/IDU	72	453	1,589.4
Confidential - Public Health	Sex between men/IDU	10	104	961.5
Anonymous - Public Health	Sex between men	658	7,219	911.5
Confidential - Public Health	Sex between men	87	1,142	761.8
Confidential - Office of Alcohol and Drug Programs	Sex between men/IDU	10	182	549.5
Confidential - Office of Alcohol and Drug Programs	Sex between men	7	195	359.0
Anonymous - Public Health	Injection drug use	87	4,044	215.1
Confidential - Public Health	Injection drug use	38	2,668	142.4
Confidential - Office of Alcohol and Drug Programs	Injection drug use	61	5,627	108.4
Blinded - Public Health	STD clinic clients	258	24,393	105.8
Blinded - Public Health	Incarcerated	167	20,202	82.7
Anonymous - Public Health	Sex partner of a high risk individual	138	17,370	79.4
Anonymous - Public Health	Heterosexual with multiple partners	60	19,633	30.6
Confidential - Office of Alcohol and Drug Programs	Heterosexual with multiple partners	4	1,417	28.2
Confidential - Office of Alcohol and Drug Programs	Sex partner of a high risk individual	5	3,350	14.9
Confidential - Public Health	Heterosexual with multiple partners	30	21,357	14.0
Confidential - Public Health	Sex partner of a high risk individual	26	21,357	12.2
Blinded - Public Health	Women's health clients	9	7,446	12.1
Confidential - US Dept of Defense	Military recruits	26	37,653	6.9
Blinded - CA Dept of Health Services	Childbearing women	30	62,239	4.8
Confidential – Blood Bank of San Bdn/Riv Counties	Blood donors	89	1,153,208	0.8

The remaining group largely represents persons with no acknowledged risk other than histories of unprotected heterosexual contact. It is relevant that the seroprevalence among the highest risk group (recipients of factor concentrates) exceeds that of the lowest (blood donors) by a factor of 6,250. Regardless, it must be noted that despite the high rate of infection among recipients of factor concentrates, factor VIII concentrate has been free of virus since mid 1992 when the United States Food and Drug Administration approved recombinant technology for the manufacture of factor VIII. Regardless, these findings support the utility of the counseling and testing of persons who engage in well-recognized behaviors that place them at increased risk for HIV as well as persons with little or no risk who donate blood on a regular basis.

Diseases/Conditions of Possible Relevance to the HIV Epidemic

Table 58 indicates that there has been an annual decline in gonorrhea between 1990 and 1996, inclusive. The increase in 1997 and the fact that the number of cases reported in 1998 exceeded that for 1996 is of considerable concern to the

Department of Public Health. Early syphilis and acute hepatitis B began to decline in 1990 and 1991, respectively. Since chlamydial infections were only made reportable in California in 1989, one should attribute the dramatic rise between 1989 and 1991, inclusive, to recognition and increasing familiarity with reporting requirements. The increase in cases of *Chlamydia trachomatis* between 1996 and 1999, inclusive, is also of considerable concern to the Department of Public Health. The observed declines in sexually and parenterally transmitted diseases is consistent with findings reported elsewhere in the United States. It is not surprising that these diseases with relatively short incubation periods declined in the face of prevention education efforts attendant to the HIV epidemic.

Tuberculosis, on the other hand, made a resurgence throughout the United States in the early 1990s. This increase was due to a number of factors including, but not limited to, the HIV epidemic, poverty, overcrowding, homelessness, the number of foreign-born persons residing within the United States, insufficient disease control funding at the local level, and the emergence of multi-drug resistant (MDR) strains of *Mycobacterium tuberculosis*. In 1994,

TABLE 58. Other diseases/conditions of possible relevance to the HIV epidemic, San Bernardino County, 1988-1999

Disease/Condition	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
Gonorrhea	2,408	3,455	2,259	1,948	1,314	1,366	1,149	944	824	936	895	738
1° & 2° Syphilis	178	172	196	110	38	20	14	26	8	8	7	12
C. trachomatis	1,116	2,036	2,884	3,636	3,147	3,739	3,513	2,996	2,853	3,561	4,386	4,528
Hepatitis B (acute)	184	116	123	96	107	103	86	87	46	37	27	32
Tuberculosis	88	96	115	137	125	151	137	128	131	130	101	113
Live births to teens ¹	3,724	3,955	4,429	4,507	4,448	4,546	4,534	4,485	4,316	4,128	4,073	4,118
Rate/1,000 live births and teens	80.2	82.7	89.9	90.3	85.4	85.9	83.6	79.8	73.9	68.7	64.7	63.1
Teen abortions ²	1,086	1,096	1,049	1,079	1,055	1,138	1,049	942	856	1,367	1,041	--
Rate/1,000 teen abortions	23.4	22.9	21.3	21.6	20.3	21.5	19.3	16.8	14.7	22.8	16.5	--

¹15-19 years of age, inclusive²Medi-Cal funded abortions only

tuberculosis began to decline in San Bernardino County. To date, 52 (2%) of the 2,236 community AIDS cases and 57 (14%) of the 396 institutional cases have been diagnosed with active pulmonary tuberculosis.

The number of live births among teenagers increased between 1988 and 1991, inclusive. Since then it has ranged between 4,546 (1993) and 4,073 (1998) live births. However, it is important to note that the birth rate/1,000 teens has declined annually since 1993. The number of Medi-Cal funded abortions peaked in 1993 (n=6,292). However, the rate of teen abortions has remained remarkably stable with the exception of abortions performed in 1995, 1996, and 1998.

There are anecdotal reports of an increased desire among teens to become pregnant and documented evidence of increased sexual activity among very young teens. Regardless, the number of teen pregnancies suggests the continued opportunity for exposure to HIV and other diseases through unprotected sex.

Housing

Riverside and San Bernardino Counties became eligible for United States Department of Housing and Urban Development (HUD), Housing Opportunities for Persons with AIDS (HOPWA) funds in 1993. The City of Riverside was named as grantee by HUD because it had the largest population of any city within the two-county region. The housing authorities in the respective counties agreed to serve as project sponsors. The City of Riverside convened an advisory committee to assist in the planning of the method by which HOPWA funds would be distributed and the service categories that would be funded. Initial services for San Bernardino County residents

living with HIV included housing and utilities assistance, case management, home health care and outpatient primary medical care.

In late 1993, Riverside and San Bernardino counties became eligible for Title I funds under the Ryan White Comprehensive AIDS Resources Emergency (CARE) Act of 1990. These funds were able to sufficiently support case management, home health care and primary medical care in San Bernardino County such that all of the HOPWA funds could be used for housing acquisition, rehabilitation and development as well as housing and utilities assistance.

Between 1993 and 1997, inclusive, there were a number of delays in executing contracts for HOPWA-related services. On February 14, 1997, the City of Riverside named the Department of Public Health in San Bernardino as the project sponsor for San Bernardino County effective April 1, 1997.

Five hundred and sixty-six persons living with HIV/AIDS received HOPWA benefits between April 1, 1997 and December 31, 1999. According to the San Bernardino County AIDS case registry, there were 947 persons living with AIDS in San Bernardino County as of December 31, 1999 (see table 14).

TABLE 59. HOPWA beneficiaries by age group and gender, San Bernardino County, April 1, 1997-December 31, 1999

Age	Male	Female	Total	Row %
≤17	6	2	8	1%
18-30	53	31	84	15%
31-50	333	90	423	75%
51+	43	8	51	9%
Total	435	131	566	100%
Column %	77%	23%		

TABLE 60. HOPWA beneficiaries by race/ethnicity, San Bernardino County, April 1, 1997-December 31, 1999

Race/Ethnicity	Number	Row
Caucasian	251	44%
African American	169	30%
Hispanic	140	25%
Asian/Pacific Islander	3	<1%
Native American or Alaskan Native	3	<1%
Total	566	100%

Those receiving assistance under HOPWA are not representative of those living with AIDS in San Bernardino County in terms of age or gender (see table 59). Persons under the age of 30 constitute 16% of the HOPWA recipients but 23% of the 947 persons living with AIDS. This observation is somewhat surprising in that younger people tend to be over represented among those living in poverty. Persons aged 31 to 50 comprise 75% of the HOPWA beneficiaries compared to 70% of those living with AIDS. The proportion of HOPWA recipients 51 years of age or older is comparable to that of those living with AIDS.

Females constitute 19% of those living with AIDS but 23% of those receiving assistance under HOPWA. This observation is, in all likelihood, due to the fact that women are over represented among those living in poverty in the United States.

The proportions of Caucasians (44%), Hispanics (25%), Asian/Pacific Islanders (<1%) and Native Americans (<1%) receiving HOPWA benefits (see table 60) are comparable to the corresponding proportions (45%, 30%, 2% and 1%, respectively) living with AIDS in San Bernardino County. Persons of African descent constitute 30% of the HOPWA beneficiaries and 22% of persons living with AIDS. This observation is probably due to the fact that African Americans are over represented among those living in poverty within the United States. The 1989 median household

income for San Bernardino County residents was \$36,977. The data presented in table 61 indicate that \$501-\$1,000 per month was the most frequently reported income (n=338) among the HOPWA beneficiaries. The average annual income among the HOPWA recipients in San Bernardino County was \$8,463 with a range of \$0 to \$33,600 and a median of \$7,821. Ninety-four (17%) of the 566 had no income at all.

One of the stated goals of HOPWA is to prevent homelessness. Homelessness was a documented problem for 81 (14%) of the 566 who received benefits (see table 62). These individuals were placed in hotels/motels on an emergency basis because they had no other options for housing. These data do not measure the "threat of homelessness". However, since the median annual income of those served was \$7,821, the threat of homelessness must be considered "real" for at least half of this population.

Four hundred and sixty-nine (83%) of the 566 shared their residence with one or more persons. The data presented in table 63 suggest that a substantial number of persons who were not necessarily living with HIV or eligible for this program benefited from the housing and utility assistance provided through HOPWA. The average household size for those who lived with others was 2.0 persons.

The data presented in table 64 indicate that 1,286.26 (81%) of the 1,578.51 months of housing and utilities assistance were provided to those residing in one or two bedroom or single room occupancy (SRO) dwellings. This presumably reflects the fact that most recipients of HOPWA benefits are either living in apartments or relatively small homes.

TABLE 61. HOPWA beneficiaries by monthly income, San Bernardino County, April 1, 1997-December 31, 1999

	\$0-250	\$251-500	\$501-1,000	\$1,001-1,500	\$1,501-2,000	\$2,001+
Number	94	36	338	64	23	11
Column %	17%	6%	60%	11%	4%	2%

TABLE 62. HOPWA beneficiaries by recent living situation, San Bernardino County, April 1, 1997-December 31, 1999

	Number	Row %
Homeless	81	14%
Rental Assistance	347	61%
Utilities Assistance	138	24%
Total	566	100%

TABLE 63. Number of persons assisted by HOPWA, San Bernardino County, April 1, 1997-December 31, 1999

Number of persons with HIV/AIDS	566
Number of others who shared living quarters	469
Total	1,035

TABLE 64. Units (months) of service by type of assistance and number of bedrooms, April 1, 1997-December 31, 1999

# of Bedrooms	SRU	1	2	3	4	5+	Total
Rental	52.5*	440.75	298.38	145.5	23.5	2.5	963.13
Utilities		213	281.63	112	7.25	1.5	615.38
Total	52.5	653.75	580.01	257.5	30.75	4.0	1,578.51
Column %	3%	41%	37%	16%	2%	<1%	

*1,575 days of hotel/motel assistance

There has been considerable discussion among the members of the Inland Empire HIV Planning Council regarding clients who seek services from more than one provider. While most of the discussions have focused on case management, table 65 provides some insight into the utilization of housing and utilities assistance.

Unduplicated clients are defined as those who have sought and received assistance from one provider while "shared" clients are those who have received assistance from more than one provider. It is not known why some would seek service from more than one provider. Possible explanations include a change of residence from one agency's service area to that of another; limited cash flow on the part of a given provider; lack of confidence in the "system" on the part of consumers; or the exhaustion of benefits available through a given agency.

The data presented in table 65 indicate that 456 (81%) of the 566 who received housing and utility assistance between April 1, 1997 and December 31, 1999 obtained same from only one service provider. The Inland AIDS Project served 305 (67%) of the unduplicated, non-shared clients, the Foothill AIDS Project assisted 64 (14%), the Desert AIDS Project served 44 (10%) and Catholic Charities served 43 (9%). One hundred ten (19%) of the 566 unduplicated clients obtained assistance from two or more providers.

TABLE 65. Unduplicated and "shared" HOPWA beneficiaries by service provider, San Bernardino County, April 1, 1997-December 31, 1999

	Catholic Charities	Desert AIDS Project	Foothill AIDS Project	Inland AIDS Project	Total
Catholic Charities	43	2	5	72	122
Desert AIDS Project		44	0	2	46
Foothill AIDS Project			64	25	89
Inland AIDS Project				305	305

Seeking assistance from more than one provider was due, in all likelihood, to delays in the execution of contracts from the grantee to the project sponsor resulting in cash flow limitations. It has been reported that some provider agencies lacked the financial reserves to continue to offer assistance while others lacked confidence in the stability of the HOPWA program itself. It is interesting to note that the Inland AIDS Project provided housing and utilities assistance to 305 unduplicated clients and to 103 (94%) of the 110 who sought service from two or more providers. This level of service speaks to that agency's capacity and its Board of Directors' commitment to provide housing and utility assistance during times of uncertain funding.

TABLE 66 Actual expenditures by type of assistance, San Bernardino County, April 1, 1997-December 31, 1997

Type of Assistance	HOPWA Funds	Row %
Rental Assistance	\$479,604.90	89%
Utilities Assistance	60,331.86	11%
Total	\$539,936.76	100%

When the expenditure data presented in table 66 are compared with the units of service presented in table 64, the unit cost can be determined. The data indicate that the average direct service cost per month of housing assistance was \$497.96 and that the average direct service cost per month of utilities assistance was \$98.04.

Prevention Education

The San Bernardino County Department of Public Health AIDS Program provides comprehensive prevention education services, consisting of both primary and secondary prevention efforts. The health promotion and education service unit is responsible for informing, educating, motivating and empowering the residents of San Bernardino County to engage in healthier behaviors directed toward reducing the spread of HIV infection.

The AIDS Program is committed to providing the most up-to-date prevention education to residents of San Bernardino County. Toward this goal, the health education unit conducts periodic community needs assessments with respect to HIV prevention, develops and implements appropriate intervention activities with at-risk populations, and evaluates the effectiveness of these prevention projects. Current primary education efforts include, but are not limited to: one-on-one street

outreach for men who have sex with men, injection drug users and their sex partners, at-risk youth and sex industry workers; group presentations for men who have sex with men, injection drug users and their sex partners, at-risk youth, sex industry workers and the general public; recruitment of peer educators from target populations; the provision of risk reduction workshops for men who have sex with men, including the establishment of “safe dating” programs; the provision of training for counselors working in drug recovery or rehabilitation facilities; the provision of anonymous and confidential HIV antibody counseling and testing; and the development of localized safer sex campaigns and incentive items encouraging risk reduction behaviors. Specific secondary prevention efforts include: client-centered assessments of HIV knowledge and risk behavior among individual clients enrolled in the San Bernardino County HIV clinics; the provision of ongoing behavior change support for those living with or at risk of HIV; and the facilitation of weekly support groups for HIV positive men who have sex with men. Additionally, the AIDS program health education unit participates in various community events including health fairs, the Black Arts Festival, and other HIV/AIDS-related events (e.g., Riverside/San Bernardino Pride Festival, Latino HIV/AIDS Conference, National HIV Testing Day, Foothill AIDS Project’s and Inland AIDS Project’s annual AIDS Walks and World AIDS Day). Prevention education activities also encompass the development and implementation of local media campaigns (e.g., World AIDS Day and National HIV Testing Day).

Outreach staff and health educators alike distribute prevention education materials to at-risk individuals as well as to the general public. Prevention materials include, but are not limited to: HIV/AIDS literature, brochures, male and female condoms, dental dams, lubricants, bleach kits, and incentives for HIV antibody counseling and testing such as telephone cards and personal hygiene kits. The AIDS Program maintains a central warehouse of education and prevention items that are made available free of charge to individuals or groups and various community based organizations that serve at-risk populations.

Outreach, one-on-one clinic education and group prevention education presentations provide participants with general HIV/AIDS information including: the agent of infection, transmission of HIV, the mechanism of HIV infection within the body progressing towards AIDS, risk behaviors associated with HIV, and prevention techniques. Information regarding local HIV antibody counseling and testing sites is also distributed to participants, while some venues may allow for on-site testing for interested persons.

Group presentations are population specific, interactive and designed to motivate behavior change among participants. Presentations are often enhanced with the use of slides, PowerPoint programs and/or Positively Speaking presenters. Positively Speaking presenters are well-trained individuals who are infected/affected with HIV and agree to share their personal stories with an audience. The use of such speakers places a “personal spin” on prevention education and puts a human face on the HIV/AIDS epidemic.

Ongoing, clinic-based education assists clients in coping with newly diagnosed HIV infection, understanding pathologic and physiologic changes that occur, adhering to complex medication regimens, preventing secondary transmission of HIV through risk reduction activities and connecting clients to appropriate support groups or other needed services.

All prevention education activities, whether primary or secondary, are committed to client confidentiality, integrity, and self-empowerment. The highest priority for targeted prevention education in San Bernardino County addresses men who have sex with men. Other target populations include injection drug users and their sex partners, people of color, incarcerated populations, at-risk youth and sex industry workers. The Department of Public Health currently contracts with Bienestar Human Services Inc, the Desert AIDS Project, Foothill AIDS Project and the Inland AIDS Project to expand and enhance its prevention efforts.

Conclusion

There is no cure for HIV disease at this time. In 1997, President Clinton authorized \$17 million for the development of a vaccine. The new drug

treatment regimens offer the potential for providing HIV-related care in the context of chronic disease management. Highly active antiretroviral therapy (HAART) might also reduce the likelihood of secondary HIV transmission by lowering patients' viral burden. It has also been shown that the early identification and treatment of STDs lowers the likelihood of HIV transmission.

History has shown that viral diseases can be controlled and even eliminated by vaccinating the susceptible population. Until an effective vaccine is developed, primary and secondary prevention education constitute the best "vaccine" available.

The age distribution, gender, race/ethnicity, city and county of residence, and risk profile of people with HIV/AIDS is clearly known. The most susceptible population consists of those who engage in well recognized risk behaviors associated with HIV transmission. The two greatest risk behaviors for transmission of HIV are unprotected sex and sharing needles. Since the amount of funding available for the "vaccine" is limited in San Bernardino County, it is incumbent on prevention planners to "vaccinate" those with the greatest risk. These would include men who have sex with men; injection drug users and their sex partners; female sex partners of bisexual men; and infected women of childbearing age. Special efforts are indicated for the latter as available data suggest that the risk of perinatal transmission can be greatly reduced through appropriate medical intervention.

Not having sex (abstinence) and not sharing needles are the only ways to be 100% safe from HIV. Using latex barriers during sex and cleaning needles and syringes will reduce the likelihood of HIV transmission.

Too much silence surrounding sexual behavior, needle use and misinformation about HIV/AIDS has produced almost two decades of infection. Whether the silence is due to fear, ignorance or denial, the outcome is the same. Ignoring HIV/AIDS and its impact on our community ensures that we will continue to be devastated by this deadly disease.

Without a cure and in the absence of a vaccine, prevention is the most effective weapon against HIV. Preventing initial infections and subsequent transmission of the virus is vital. Society saves approximately \$119,000 for each HIV infection prevented. More importantly, preventing infection saves individuals from illnesses, physical pain, and emotional hurt far greater than the financial loss.

Approximately 40,000 new infections occur in the United States each year, with almost 50% of these infections occurring in persons under the age of 25. The need to develop, implement and evaluate effective prevention efforts remains critical.

Reporting AIDS Cases

Section 2500 of Title 17, California Code of Regulations lists AIDS as a reportable disease. As such providers are required to report all cases of AIDS, or suspect cases of AIDS, to be investigated by the local health officer under section 2512 of Title 17. For more information about reporting cases (including case definitions and/or case report forms), assistance in reporting a case, or to receive copies of this AIDS Program Report, contact the San Bernardino County AIDS Program at the following address:

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